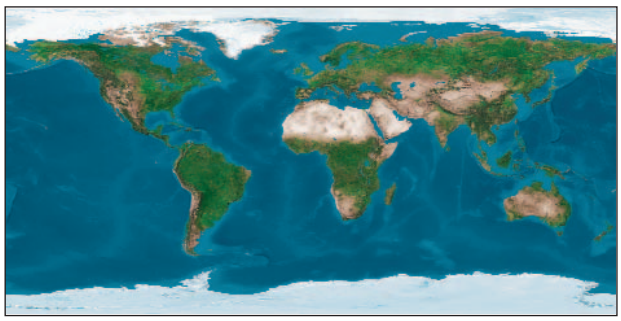
Compressed release

CONNECTIVITY SYSTEMS 2006

SIGNAMAX™
CONNECTIVITY SYSTEMS

Signamax LLC, a US based company, is uniquely focused on providing complete high-performance networks and complex distribution solutions for customers worldwide. We provide complete unified products for copper and fiber based network connections designed for increased performance, reliability and easy installation. Signamax components are also popular for their valued performance/price ratio.



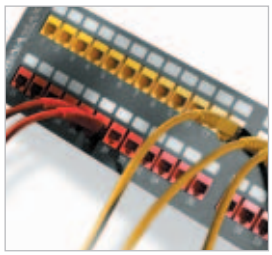
Signamax worldwide support

Our knowledgeable sales, technical support and engineering staff is dedicated to understand the requirements of our customers. With company headquarters in Washington DC and contracted distributors in 14 European countries and production in US, Europe and Asia, Signamax Connectivity Systems is uniquely positioned to deliver complete network solutions to our customers worldwide. Moreover, with our new central warehouse and sales center for Europe in Czech Republic we can now provide better service and support to all European partners and customers.

Product solutions

With **Signamax Connectivity Systems** you can get the right solution for comprehensive complete infrastructure.

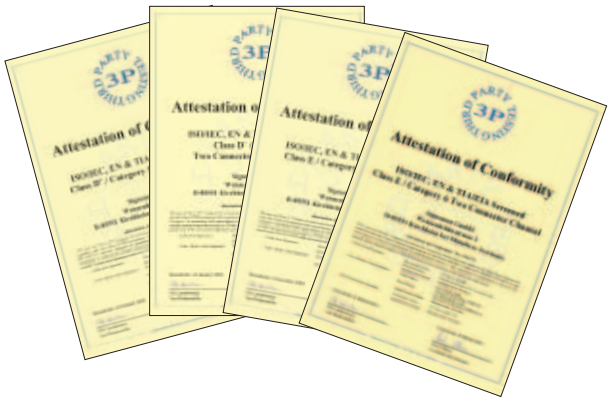
Signamax Network Connectivity Systems line represents one of the industry's best products for high performance Ethernet, Fast Ethernet and Gigabit Ethernet components including interface cards, switches and media converters supporting both copper and fiber optic based networks. Signamax Media Converters allow mixed media and speeds in networks for optimum performance. Signamax managed and unmanaged Switches range from 5 to 24 ports with support for 10/100Base to 1000Base speeds with both copper and fiber terminations. Signamax Wireless Products are perfectly suitable for mobile users and allow building of high-performance wireless networks and links. Signamax wireless networks are interactively compatible and allow high speeds of 11/22/54/108 Mbps.



Our premise cabling product line includes patch cords, panels and network components for Category 5 Enhanced, Category 6/6a, Category 7 and fiber optic systems designed to exceed the latest ANSI/TIA/EIA and ISO/IEC specifications. We also supply distribution frames, data racks and cable management systems. All certified Signamax system installations are covered by 20 Years Registered System Warranty encompassing all system elements.

Standards and Quality

You will find that our products have better design, easier installation and bring unique level of performace and reliability to your network than most suppliers can offer. They are designed for the most demanding applications engineered to meet stringent standards and specifications. Each manufactured product has been tested to comply with the standards of organizations such as ANSI/TIA/EIA, ISO/IEC and IEEE. Signamax network and complex solutions are certified by independent laboratories and backed up by long-term performance warrantees that keep peace in your mind.



Visit the **www.signamax.cz** web page to find your local Signamax representative.

SIGNAMAX™
CONNECTIVITY SYSTEMS

Table of Contents

Network Connectivity Systems

A: Media Converters

10/100 Switching Fiber Converters	A1–A2
10/100 LFS Switching Fiber Converters	A3–A4
100Base Non-switching Fiber Converters	A5
10/100 PCI Switching Fiber Converters	A6
10/100 POE Switching Fiber Converters	A7–A8
10/100 Managed Fiber Converters	A9–A10
10/100 Mini Switching Fiber Converters	A11
Hardened 10/100 To 100BaseFx Converters with LFS	A12
Stand Alone Managed Media Converters	A13
Gigabit Fiber Converters	A14
10/100/1000 Switching Fiber Optic Media Converters	A15
Single Fiber WDM Converters	A16
Singlemode to Multimode Converters	A17
12-Port Media Converters	A18
16-Bay Converter Chassis	A19
18-Bay Managed Converter Chassis	A20

B: Ethernet Switches and Routers

10/100 Desktop Switches	B1
Fast Ethernet 8-Port Desktop Switch	B2
Fast Ethernet 16-Port Desktop Switch	B3
10/100 Rack Mount Switches	B4
10/100 WebSmart Switches	B5
Gigabit Access Switch	B6
Gigabit Access PoE switch	B7
Gigabit Ethernet Access Switch	B8
Gigabit Desktop Switches	B9
Gigabit Ethernet Switches	B10
Gigabit WebSmart Switches	B11–B12
Gigabit Management Switch	B13
Gigabit Management POE Switches	B14
Fiber Desktop Access Switch	B15
Fiber Desktop Managed Access Switch	B16
Fiber Rackmount 100BaseFX Switch	B17
Fiber Rackmount 100FX Managed Switch	B18
Fiber Gigabit Acces Switch	B19
Broadband Access Routers	B20

C: Network Interface Cards

Gigabit Ethernet PCI Adapter Cards	C1
Fast Ethernet PCI Adapter Cards	C2

D: KVM Switches

2-Port Compact KVM Switch	D1
2- and 4-Port Multimedia KVM Switches	D2
8- and 16-Port Cascadable KVM Switches	D3
KVM Hydra Cables	D4

E: Wireless LAN

Wireless Access Point	E1
Wireless Broadband Router 54 Mbps 802.11g	E2
Wireless Broadband Router 108 Mbps 802.11g+	E3–E4
Wireless ADSL Modem/Router 54 Mbps 802.11g	E5
Wireless 802.11g+ 54/108 PCI Card	E6
Wireless 802.11g 54 PCI Card	E7
Wireless accessories	E8
Antennas for WiFi	E8

Premise Connectivity Systems

F: Structured Cabling

Introduction to Structured Cabling	F1–F3
What is Structured Cabling?	F3
Structured Cabling Testing	F4–F6
10GBaseT and Structured Cabling	F7–F8

G: Work Area Outlet Systems

Category 6 Wall Outlets	G1
Category 5e Wall Outlets	G1
Category 6 Keystone Jacks	G2
Category 5e Keystone Jacks	G3
Keystone Jack Modular Outlets	G4
Keystone Multimedia Modules	G4

H: Patch Panels

Category 6 Shielded Patch Panels	H1
Category 6 Unshielded Patch Panels	H2
Category 5e Shielded Patch Panels	H3
Category 5e Unshielded Patch Panels	H3
ISDN Patch Panels	H4

J: Patch Cords/Testers

S-FTP Category 6 Patch Cords	J1
S-FTP Category 5e Patch Cords	J1
UTP Category 6 Patch Cords	J2
UTP Category 5e Patch Cords	J3
T-Adapters and Testers	J4
Inline Couplers and Connection Boxes	J4

K: Installation Cable

S-STP Category 7 Installation Cable	K1
FTP Category 6/6a Installation Cable	K2
UTP Category 6 Installation Cable	K3
UTP Category 5e Installation Cable	K4

L: Fiber Optic Systems

Fiber Optic Patch Cords	L1–L2
Fiber Optic Adapters	L3
Fiber Optic Patch Panels	L4
Wall Mount Fiber Optic Box	L4

M: Data Racks

19" Data Racks	M1–M2
19" Server Racks	M3
19" Wall Mounted Racks	M4
19" Mounted Rack Signamax	M5–M6
19" Fan Units	M7
19" Shelves	M8–M9
Diode Lighting Unit	M10
Accessories	M11–M12

Keeping Your World

In today's technology driven environment, the backbone of your organization is your network—keeping you connected to staff, customers, suppliers, and the world at large. To run a successful enterprise, you need a network that is reliable, fast, and ready to accommodate the inevitable growth and change you will experience. And the company that can deliver network solutions that is up to those challenges is Signamax Connectivity Systems.

The Signamax mission is to provide for your total end-to-end network connectivity needs. As your single source for the full range of products needed for reliable connectivity, Signamax delivers the comprehensive Network Connectivity Systems product line offering a wide range of high-performance and cost effective active components for Ethernet, Fast Ethernet, and Gigabit Ethernet applications.

Our media converters enable mixed media and speeds on a network for optimum performance. Signamax managed and unmanaged switches are offered in configurations from 5 to 24 ports with support of 10/100Base to 1000Base speeds with both copper and fiber terminations. Signamax wireless products allow building of high-performance wireless networks and links, which complement and replace standard cabling infrastructure and allow high speeds of 11/22/54/108 Mbps in 2.4 GHz as well as in 5 GHz band.

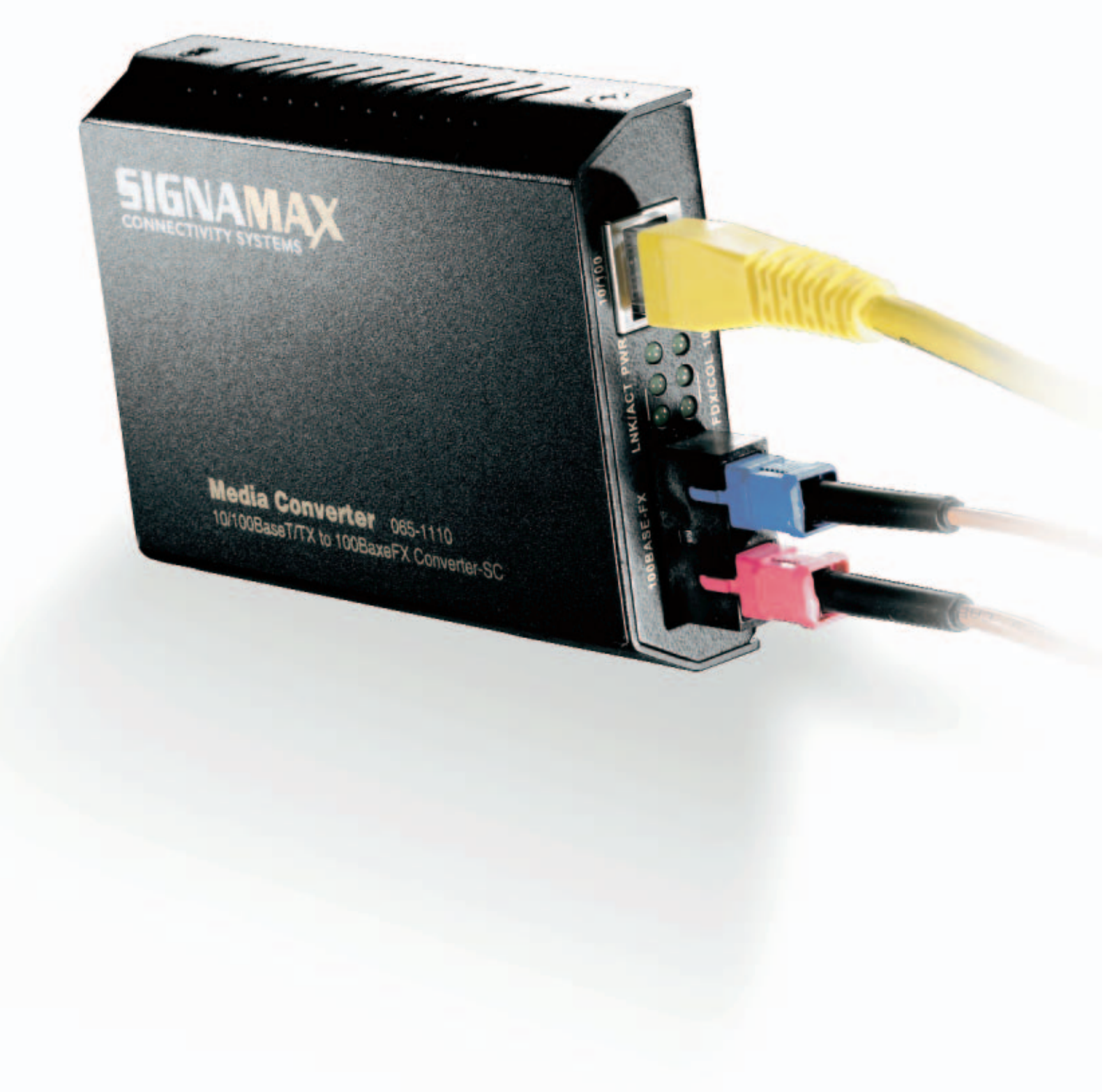
Connected

The Signamax Premise Connectivity System enables you to build a network infrastructure that can accommodate all your network applications. It is comprised of wiring solutions for your equipment room, distribution cabling and cross-connects to your work-areas with a wide-range of high-performance copper & fiber-optic components, all designed to work together as a system. From the smallest project to the largest, enterprise-wide fiber to the desktop installation, Signamax has the range of network solutions you will need to support your business.

You will find that our products are designed better, install with greater ease and bring an unparalleled level of performance and reliability to your network. Our systems are designed for the most demanding applications, engineered to meet stringent standards and specifications. Each product is manufactured to the highest quality standards, then tested to ensure that it exceeds the application standards, such as TIA/EIA, ISO/IEC and CENELEC. The strength and integrity of our Premise Connectivity System is backed by the skills and experience of our technical staff.

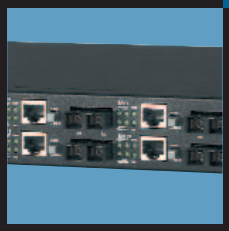
At Signamax, we are dedicated to making your business run more efficiently, with connectivity systems backed by long-term performance warrantees that provide the peace of mind you want when selecting systems to support your network. So, if you want to keep your world connected, choose the supplier that can make it happen, Signamax Connectivity Systems.

NETWORK CONNECTIVITY SYSTEMS



SIGNAMAX
CONNECTIVITY SYSTEMS

Media Converters



A

- 10/100 Switching Fiber Converters
- 10/100 LFS Switching Fiber Converters
- 100Base Non-switching Fiber Converters
- 10/100 PCI Switching Fiber Converters
- 10/100 POE Switching Fiber Converters
- 10/100 Managed Fiber Converters
- 10/100 Mini Switching Fiber Converters
- Hardened 10/100 To 100BaseFx Converters with LFS
- Stand Alone Managed Media Converters
- Gigabit Fiber Converters
- 10/100/1000 Switching Fiber Optic Media Converters
- Single Fiber WDM Converters
- Singlemode to Multimode Converters
- 12-Port Media Converters
- 16-Bay Converter Chassis
- 18-Bay Managed Converter Chassis

Switching Fiber Converters

Signamax Connectivity Systems' Switching Media Converters provide an intelligent solution for long distance connections between legacy 10BaseT networks and the newer 100Base Fast Ethernet or 1000Base Gigabit Ethernet networks. These converters are designed to handle a wide variety of fiber optic network applications and eliminate the 412 meter distance limitation when connecting hub-based sub-networks at 100BaseFX. They also extend the maximum singlemode fiber distance, spanning over 75 km with the 065-1120XLD model.

Built-in 10/100 or 10/100/1000 switch enables the fiber cable connection to operate at 100 Mbps connected to either a 10BaseT or a 100BaseTX network, while remaining completely 100BaseFX or 1000BaseSX standard-compliant. Fiber connection can also operate in full duplex mode whether the RJ45 port is connected to a full duplex switch or a half duplex hub.

Each Media Converter provides a 10/100BaseT/TX auto-negotiating RJ45 twisted-pair connector port (10/100/1000BaseT/TX for model 065-1196) featuring store-and-forward switching architecture. Built-in switch does the network segmentation to provide the maximum fiber distance. Now with Auto-MDIX capability on the twisted-pair port for more convenient connection. Each Media Converter is also equipped with LFS (Link Fault Signaling) feature.

Switching Fiber Optic Media Converter Products

PART NO.	DESCRIPTION	FIBER TYPE
065-1100	10/100BaseT/TX to 100BaseFX Converter	ST Multimode
065-1110	10/100BaseT/TX to 100BaseFX Converter	SC Multimode
065-1170	10/100BaseT/TX to 100BaseFX Converter	VF45 Multimode
065-1172	10/100BaseT/TX to 100BaseFX Converter	MTRJ Multimode
065-1174	10/100BaseT/TX to 100BaseFX Converter	LC Multimode
065-1120	10/100BaseT/TX to 100BaseFX Converter	SC Singlemode (15 km span)
065-1120ED	10/100BaseT/TX to 100BaseFX Converter	SC Singlemode (40 km span)
065-1120XLD	10/100BaseT/TX to 100BaseFX Converter	SC Singlemode (75 km span)
065-1196	10/100/1000BaseT/TX to 1000BaseSX Converter	SC Multimode
065-11DINMT	DIN rail mounting bracket for 065-11xx series media converters	

SPECIFICATIONS

APPLICABLE STANDARDS

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX

FIXED PORTS

Models 065-1100/1110/1170/1172/1174/1120/1120ED/1120XLD:
1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus
1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fiber optic cable, 2,000 meters maximum distance
or
1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 15 kilometers maximum distance (model 065-1120)
or
40 kilometers maximum distance (model 065-1120ED)
or
75 kilometers maximum distance (model 065-1120XLD)
Model 065-1196:
1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT, IEEE 802.3u 100BaseTX & IEEE 802.3ab 1000BaseT standard specifications; Category 5e
or
better cable, 100 meters maximum distance for 1000BaseT, Category 5
or
better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus
1 fiber optic port meeting IEEE 802.3z 1000BaseSX standard specification; 62.5/125 micron multimode fiber optic cable, 220 meters maximum distance, or 50/125 micron multimode fiber optic cable, 550 meters maximum distance

PERFORMANCE

Latency: < 4.2 µs (LIFO)
Throughput @ 100Base: 148,809 pps
Throughput @ 1000Base: 1,488,100 pps (64-byte packets)

LEDs

Per unit: Power status, RJ45 port speed
Per Port: LNK/ACT, FDX/COL
Six LEDs total

PHYSICAL CHARACTERISTICS

Case dimensions (L x W x H):
4.33" x 3.19" x 0.91" (110 mm x 81 mm x 23 mm)
Fiber connector interface varies with model.
Weight: 0.33 pounds (150 grams)

SAFETY

UL Listed

Model 065-1100

Model 065-1110

Model 065-1170

Model 065-1172

Model 065-1174

Switching Converters with Link Fault Signaling

Signamax Connectivity Systems' Switching Media Converters with Link Fault Signaling provide the means for an SNMP-Managed switch to recognize a failure on a fiber channel or twisted-pair connection, enabling the switch to automatically route to a backup path if the connected switch is equipped with Spanning Tree Algorithm. This intelligence maximizes the power of managed switches, and enables fail-safe design solutions for complex networks. These converters also extend the maximum singlemode fiber distance, spanning over 75 km with the 065-1120XLDLFS model.

The built-in 10/100 switch enables the fiber optic connection to operate at 100 Mbps connected to either a 10BaseT or a 100BaseTX network, while remaining completely 100BaseFX standard-compliant. Fiber optic connection can also operate in full duplex mode whether the RJ45 port is connected to a full duplex switch or a half duplex hub, with the built-in switch providing the network segmentation that permits the maximum fiber distance. Each Media Converter provides a 10/100BaseT/TX auto-negotiating RJ45 twisted-pair interface featuring store-and-forward switching architecture. Auto-MDIX capability on the twisted-pair port allows for convenient connections.

The USB power connector on the rear panel provides additional power options where AC power outlets are unavailable.

10/100BaseT/TX Switching Converters with Link Fault Signaling

PART NO.	DESCRIPTION	FIBER TYPE
065-1100LFS	10/100BaseT/TX to 100BaseFX Converter	ST Multimode
065-1110LFS	10/100BaseT/TX to 100BaseFX Converter	SC Multimode
065-1170LFS	10/100BaseT/TX to 100BaseFX Converter	VF45 Multimode
065-1172LFS	10/100BaseT/TX to 100BaseFX Converter	MTRJ Multimode
065-1174LFS	10/100BaseT/TX to 100BaseFX Converter	LC Multimode
065-1120LFS	10/100BaseT/TX to 100BaseFX Converter	SC Singlemode (15 km span)
065-1120EDLFS	10/100BaseT/TX to 100BaseFX Converter	SC Singlemode (40 km span)
065-1120XLDLFS	10/100BaseT/TX to 100BaseFX Converter	SC Singlemode (75 km span)
065-11DINMT	DIN rail mounting bracket for 065-11xx series media converters	

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX

FIXED PORTS
1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus
1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fiber optic cable, 2,000 meters maximum distance
or
1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 15 kilometers maximum distance (model 065-1120LFS)
or
40 kilometers maximum distance (model 065-1120EDLFS)
or
75 kilometers maximum distance (model 065-1120XLDLFS)

PERFORMANCE
Latency: < 4.2 µs (LIFO)
Throughput @ 100Base: 148,809 pps (64-byte packets)

LEDs
Per unit: Power status, RJ45 port speed
Per Port: LNK/ACT, FDX/COL
Six LEDs total

PHYSICAL CHARACTERISTICS
Case dimensions (L x W x H):
4.33" x 3.19" x 0.9"
(110 mm x 81 mm x 23 mm)
Fiber optic interface varies with model.
Weight: 0.33 pounds (150 grams)
USB power connector on the rear panel optionally powers converter from computer's USB port.

SAFETY
UL Listed

Model 065-1100LFS

Model 065-1110LFS

Model 065-1170LFS

Model 065-1172LFS

Model 065-1174LFS

Model 065-1110LFS
(rear panel view)

Non-switching Fiber Optic Converters

Signamax Connectivity Systems' Fiber Optic Media Converters reduce cabling cost by providing flexible, non-switched fiber optic solutions for Ethernet LANs and WAN connectivity. Models are available for direct connection to RJ45 and fiber optic ports on either Ethernet or Fast Ethernet devices, and the 065-1160 model allows interconnection between 10BaseT twisted-pair and 10Base2 coaxial Thinnet cable Ethernet networks.

Each Media Converter is enclosed in a compact, strong metal case and includes an external power supply for stand-alone applications. Converters can also be installed without modification in the 065-1185 Rack Mount Chassis system, featuring redundant power supplies for high reliability in multiple converter installations.

SPECIFICATIONS

APPLICABLE STANDARDS
Ethernet IEEE 802.3 and IEEE 802.3u

FIXED PORT SPECIFICATIONS
100BaseTX twisted-pair interface, models 065-1100NS, 065-1110NS & 065-1120NS:
RJ45 connector, 100 meters max. distance
100BaseTX twisted pair cable interface
models 065-1140, 065-1150 & 065-1160:
RJ45 connector, 100 meters max. distance
10BaseT twisted pair cable interface
model 065-1100NS:
ST connector; 2,000 meters max. distance
100BaseFX multimode fiber optic interface
model 065-1110NS:
SC connector; 2,000 meters max. distance
100BaseFX multimode fiber optic interface
model 065-1120NS:
SC connector, 20 kilometers max. distance
100BaseFX singlemode fiber interface
model 065-1140: ST connector;
2,000 meters max. distance 10BaseFL
multimode fiber optic interface
model 065-1150: SC connector;
20 kilometers max. distance 10BaseFL
singlemode fiber optic interface
model 065-1160: BNC connector;
185 meters max. distance 10Base2 coaxial
cable interface

PERFORMANCE
Delay: less than 23 bit times

PHYSICAL CHARACTERISTICS
Case dimensions (L x W x H):
4.33" x 3.19" x 0.91"
(110 mm x 81 mm x 23 mm)
Fiber connector interface varies with model.
Weight: 0.33 pounds (150 grams)

SAFETY
UL Listed

Non-switching Fiber Optic Media Converters

PART NO.	DESCRIPTION
065-1100NS	100BaseTX to 100BaseFX ST Multimode
065-1110NS	100BaseTX to 100BaseFX SC Multimode
065-1120NS	100BaseTX to 100BaseFX SC Singlemode (20 km span)
065-1140	10BaseT to 10BaseFL ST Multimode
065-1150	10BaseT to 10BaseFL SC Singlemode (20 km span)
065-1160	10BaseT to 10Base2 – BNC Connector
065-11DINMT	DIN rail mounting bracket for 065-11xx series media converters

10/100BaseT/TX Switching PCI Fiber Optic Media Converters

Signamax Connectivity Systems' Switching PCI Fiber Optic Media Converters are an excellent solution for fiber-to-the-desktop installations where the workstation computers have pre-installed Network Interfaces. These media converters are inserted into one of the PC's available PCI slots, and a copper patch cable is used to connect the media converter to the existing network interface jack on the PC's motherboard or in an adjoining PCI slot. The fiber optic cable then connects to the fiber-based cabling plan for network connectivity. Avoids the need for fiber NIC driver maintenance in environments where PCs are used in both fiber- and copper-connected areas. These converters are designed to handle both legacy 10BaseT and 100BaseTX Fast Ethernet devices on their twisted pair port while maintaining 100BaseFX Fast Ethernet transmission on the fiber optic port. Plug-and-play simplicity makes connection easy.

Each Media Converter provides a 10/100BaseT/TX auto-negotiating RJ45 twisted-pair connector port with Auto-MDIX capability for convenient connection. Built-in 10/100 switch enables the fiber cable connection to operate at 100 Mbps connected to either a 10BaseT or a 100BaseTX network, while remaining completely 100BaseFX standard-compliant.

10/100BaseT/TX Switching PCI Fiber Optic Media Converters

PART NO.	DESCRIPTION
065-1060SC	PCI card-based 10/100BaseT/TX to 100BaseFX, Multimode/SC, 2 km
065-1060ST	PCI card-based 10/100BaseT/TX to 100BaseFX, Multimode/ST, 2 km
065-1060SM	PCI card-based 10/100BaseT/TX to 100BaseFX, Singlemode/SC, 20 km
065-1060SMED	PCI card-based 10/100BaseT/TX to 100BaseFX, Singlemode/SC, 40 km
065-1060SMXLD	PCI card-based 10/100BaseT/TX to 100BaseFX, Singlemode/SC, 75 km

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX
ANSI/IEEE 802.3 NWAY
Auto-negotiation
PCI Specification 2.0/2.1.

FIXED PORTS
1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus
1 fiber optic port with SC (model 065-1060SC) or ST (model 065-1060ST) meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fiber optic cable, 2,000 meters maximum distance
or
1 SC duplex fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 20 kilometers maximum distance (model 065-1060SM)
or
40 kilometers maximum distance (model 065-1060SMED)
or
75 kilometers maximum distance (model 065-1060SMXLD)

PERFORMANCE
Latency: < 4.2 µs (LIFO)
Throughput @ 100Base: 148,809 pps (64-byte packets)

LEDs
Per Port: LNK/ACT TX,
LNK/ACT FX
Two LEDs total

ARCHITECTURE
32-Bit PCI Bus Mastering

10/100 to 100BaseFX Power over Ethernet Fiber Media Converters

The Signamax 065-1050 series media converters are 10/100BaseT/TX to 100BaseFX Power over Ethernet (PoE) devices that serve as Power Sourcing Equipment (PSE), which allows the converter to provide power to IEEE 802.3af PoE standard-compliant Powered Devices (PDs) using the twisted pair connection. This AC-powered PoE media converter combines data received over a fiber optic link with -48 Volt DC power, which the PD can use instead of a separate power connector. The 065-1050 series converters are also equipped with PD signature-sensing, power monitoring, over-voltage protection, low voltage detection, and input fault protection features. The 065-1050 series' Link Fault Signaling (LFS) capability allows the media converter to monitor both the fiber and copper RX ports for signal loss. In case of a loss of RX signal on one media port, the converter will automatically disable the TX signal to the other media port, thus passing through the link fault. Far End Fault (FEF) capability enables the converter to stop sending link pulse to the link partner once a loss of the fiber RX signal is encountered; the link partner will then synchronously stop sending data, thereby preventing the loss of data that would occur when trying to transmit over a failed link.

The Signamax 065-1052 series media converters are PoE 10/100BaseT/TX to 100BaseFX Powered Devices supporting two types of media, 10/100BaseT/TX and 100BaseFX, for network connection. They are also equipped with Link Fault Signaling (LFS), to maintain link integrity and enable automatic failover when used with Spanning Tree-equipped switches.

10/100 to 100BaseFX Power over Ethernet Fiber Media Converters

PART NO.	DESCRIPTION
065-1050ST	10/100BaseT/TX to 100BaseFX PSE PoE media converter, Multimode/ST, 2 km
065-1050SC	10/100BaseT/TX to 100BaseFX PSE PoE media converter, Multimode/SC, 2 km
065-1050SM	10/100BaseT/TX to 100BaseFX PSE PoE media converter, Singlemode/SC, 15 km
065-1050SMED	10/100BaseT/TX to 100BaseFX PSE PoE media converter, Singlemode/SC, 40 km
065-1050SMXLD	10/100BaseT/TX to 100BaseFX PSE PoE media converter, Singlemode/SC, 75 km
065-1052ST	10/100BaseT/TX to 100BaseFX PD PoE media converter, Multimode/ST, 2 km
065-1052SC	10/100BaseT/TX to 100BaseFX PD PoE media converter, Multimode/SC, 2 km
065-1052SM	10/100BaseT/TX to 100BaseFX PD PoE media converter, Singlemode/SC, 15 km
065-1052SMED	10/100BaseT/TX to 100BaseFX PD PoE media converter, Singlemode/SC, 40 km
065-1052SMXLD	10/100BaseT/TX to 100BaseFX PD PoE media converter, Singlemode/SC, 75 km

SPECIFICATIONS

APPLICABLE STANDARDS

IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX
IEEE 802.3af Power over Ethernet (PoE)

FIXED PORTS

models 065-1050ST, 065-1050SC, 065-1050SM, 065-1050SMED, 065-1050SMXLD:

1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT

plus

1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fiber optic cable, 2,000 meters maximum distance (model 065-1050ST & 065-1050SC)

or

1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 15 kilometers maximum distance (model 065-1050SM)

or

1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 40 kilometers maximum distance (model 065-1050SMED)

or

1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 75 kilometers maximum distance (model 065-1050SMXLD)

models 065-1052ST, 065-1052SC, 065-1052SM, 065-1052SMED, 065-1052SMXLD:

1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT

plus

1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 52/125 micron multimode fiber optic cable, 2,000 meters maximum distance (model 065-1052ST & 065-1052SC)

or

1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 15 kilometers maximum distance (model 065-1052SM)

or

1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 40 kilometers maximum distance (model 065-1052SMED)

or

1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 75 kilometers maximum distance (model 065-1052SMXLD)

PERFORMANCE

Latency: < 4.2 µs (LIFO)
Throughput @ 100Base: 148,809 pps (64-byte packets)

LEDs

models 065-1050ST, 065-1050SC, 065-1050SM, 065-1050SMED, 065-1050SMXLD:
Power, PoE, TP Link/Act, 100, FX Link/Act, FDX/COL, 4W, 7W, 15.4W, Power Bad

models 065-1052ST, 065-1052SC, 065-1052SM, 065-1052SMED, 065-1052SMXLD:
FX Link/Act, FX FDX/Col, TX Link/Act, TX 100, PSE Power Good, PSE Power Bad, Power

PHYSICAL CHARACTERISTICS

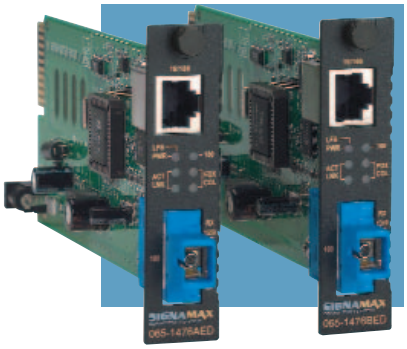
Case dimensions (L x W x H):
models 065-1050ST, 065-1050SC, 065-1050SM, 065-1050SMED, 065-1050SMXLD:
7.28" x 4.41" x 1.18" (185 mm x 112 mm x 30 mm)
models 065-1052ST, 065-1052SC, 065-1052SM, 065-1052SMED, 065-1052SMXLD:
3.70" x 2.77" x 1.03" (94 mm x 70.3 mm x 26.2 mm)
Fiber optic interface varies with model.

SAFETY

FCC Part 15 Class A & CE Mark

10/100 Switching Managed Media Converters

Signamax Connectivity Systems' 065-1400 series Managed Switching Media Converters are modular SNMP-managed media converter cards available with a variety of interfaces to provide copper-to-fiber conversion for mission-critical networks. They are used with the 065-1480 Managed Media Converter Rack Mount Chassis to enable network managers to remotely monitor the status of their entire network via RJ45 (in band) or RS-232 (out of band) connection to the 065-1481 series SNMP Management Module included with every Signamax 065-1480 chassis system. Up to eighteen managed media converters are supported in a single 2U-high chassis. Equipped with Link Fault Signaling (LFS) and Loopback Testing capabilities, they extend the enterprise LAN configuration range up to 60 km while simultaneously minimizing downtime expenses and extending the lifespan and reach of existing copper-based managed switches.



Signamax Connectivity Systems' 065-1400 series Singlemode to Multimode Managed Media Converters are an enhancement to the Signamax SNMP-managed media converter system. These card-based converters are available with a variety of interfaces to provide singlemode-to-multimode fiber conversion for mission-critical Fast Ethernet, Gigabit Ethernet, and Asynchronous Transfer Mode (ATM) networks. Gigabit Ethernet singlemode-to-singlemode repeater model is also available on request. They are used with the 065-1480 Managed Media Converter Rack Mount Chassis to enable network managers to remotely monitor the status of their entire network via RJ45 (in band) or RS-232 (out of band) connection to the 065-1481 series SNMP Management Module included with every Signamax 065-1480 chassis system. Up to eighteen managed media converters are supported in a single 2U-high chassis. They extend the enterprise LAN or carrier network range up to 60 km while simultaneously minimizing downtime expenses and extending the lifespan and reach of existing copper-based managed switches.

Managed Gigabit Fiber Optic & Switching 10/100 Fiber Optic Media Converters

PART NO.	DESCRIPTION
065-1400	10/100BaseT/TX to 100BaseFX Converter ST Multimode
065-1410	10/100BaseT/TX to 100BaseFX Converter SC Multimode
065-1420	10/100BaseT/TX to 100BaseFX Converter SC Singlemode (30 km span)
065-1420ED	10/100BaseT/TX to 100BaseFX Converter SC Singlemode (60 km span)
065-1476A	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (20 km span)
065-1476B	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (20 km span)
065-1476AED	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (40 km span)
065-1476BED	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (40 km span)
065-1490	155 Mbps ATM SC Multimode to 155 Mbps ATM SC Singlemode (20 km span)
065-1490HS	622 Mbps ATM SC Multimode to 622 Mbps ATM SC Singlemode (20 km span)
065-1494	1000BaseSX SC Multimode to 1000BaseLX SC Singlemode (10 km span)
065-1494ED	1000BaseSX SC Multimode to 1000BaseLX SC Singlemode (20 km span)
065-1498XLD	1000BaseLX SC Singlemode (20 km span) to 1000BaseLX SC Singlemode (20 km span)

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3u 100BaseFX
IEEE 802.3z 1000BaseSX/LX
Asynchronous Transfer Mode (ATM)
155 Mbps Specifications (model 065-1490)
Asynchronous Transfer Mode (ATM)
622 Mbps Specifications (model 065-1490HS)
Synchronous Optical Network (SONET)
Optical Carrier – 3 (OC-3) Specifications
(model 065-1490)
Synchronous Optical Network (SONET)
Optical Carrier – 12 (OC-12) Specifications
(model 065-1490HS)
Synchronous Digital Hierarchy (SDH) STM-1
Specifications (model 065-1490)
Synchronous Digital Hierarchy (SDH) STM-4
Specifications (model 065-1490HS)

FIXED PORTS
100BaseFX models:
1 ST duplex fiber optic port meeting
IEEE 802.3u 100BaseFX standard
specification; 62.5/125 or 50/125 micron
multimode fiber optic cable, 2,000 meters
maximum distance (model 065-1430 &
065-1430ED)
or
1 SC duplex fiber optic port meeting
IEEE 802.3u 100BaseFX standard
specification; 62.5/125 or 50/125 micron
multimode fiber optic cable, 2,000 meters
maximum distance (model 065-1432 &
065-1432ED)
plus
1 SC duplex fiber optic port meeting
IEEE 802.3u 100BaseFX standard
specification; 9/125 micron singlemode fiber
optic cable, spanning: 30 kilometers maximum
distance (model 065-1430 & 065-1432)
or
60 kilometers maximum distance
(model 065-1430ED & 065-1432ED)

1000BaseSX to 1000BaseLX model 065-1494 & 065-1494ED:
1 SC fiber optic port meeting IEEE 802.3z
1000BaseSX standard specification; 62.5/125
(220 meters maximum distance) or
50/125 micron (550 meters maximum
distance) multimode fiber optic cable
plus
1 SC duplex fiber optic port meeting
IEEE 802.3z 1000BaseLX standard
specification; 9/125 micron singlemode
fiber optic cable, spanning: 10 kilometers
maximum distance (model 065-1494)
or
20 kilometers maximum distance
(model 065-1494ED)

1000BaseLX to 1000BaseLX Repeater, model 065-1498XLD (Special Order):
1 SC duplex fiber optic port meeting
IEEE 802.3z 1000BaseLX standard
specification; 9/125 micron singlemode
fiber optic cable, spanning: 20 kilometers
maximum distance
plus
1 SC duplex fiber optic port meeting
IEEE 802.3z 1000BaseLX standard
specification; 9/125 micron singlemode
fiber optic cable, spanning: 20 kilometers
maximum distance

Asynchronous Transfer Mode (ATM) models:
1 SC duplex fiber optic port meeting ATM
155 Mbps, SONET OC-3, and SDH STM-1
standard specifications (model 065-1490);
62.5/125 or 50/125 micron multimode fiber
optic cable, 2,000 meters maximum distance
or
1 SC duplex fiber optic port meeting ATM
622 Mbps, SONET OC-12, and SDH STM-4
standard specifications (model 065-1490HS);
62.5/125 or 50/125 micron multimode fiber
optic cable, 2,000 meters maximum distance
plus
1 SC duplex fiber optic port meeting ATM
155 Mbps, SONET OC-3, and SDH STM-1
standard specifications (model 065-1490);
9/125 micron singlemode fiber optic cable,
spanning: 20 kilometers maximum distance
or
1 SC duplex fiber optic port meeting
ATM 622 Mbps, SONET OC-12, and
SDH STM-4 standard specifications
(model 065-1490HS);
9/125 micron singlemode fiber optic cable,
spanning: 20 kilometers maximum distance

PERFORMANCE
Delay: less than 21 bit times

PHYSICAL CHARACTERISTICS
Dimensions (L x W x H):
6.75" x 2.72" x 0.85"
(171.5 mm x 69 mm x 21.5 mm)
Fiber optic interface varies with model.
Weight: 0.33 pounds (115 grams)
Power: External power supply;
12 Volts DC;
0.8 A (Supplied via 065-1480 chassis only)
Power consumption: 2.8 Watts maximum
Operating temperature: 0° – 50°C
(32° – 122°F)
Storage temperature:- 20° – 70°C
(-4° – 158°F)
Operating humidity: 10-80%,
non-condensing
Storage humidity: 5-90%, non-condensing

EMISSIONS
FCC part 15 Class A, CE Mark

10/100BaseT/TX Switching Mini Fiber Optic Media Converters

Signamax Connectivity Systems' Switching Mini Fiber Optic Media Converters provide an intelligent solution for fiber optic connectivity where simplicity, low cost, and minimum footprint are the primary considerations. These converters are designed to handle both legacy 10BaseT and 100BaseTX Fast Ethernet devices on their twisted pair port while maintaining 100BaseFX Fast Ethernet transmission on the fiber optic port. Plug-and-play simplicity makes connection easy.

Each Media Converter provides a 10/100BaseT/TX auto-negotiating RJ45 twisted-pair connector port with Auto-MDIX capability for more convenient connection. Built-in 10/100 switch enables the fiber cable connection to operate at 100 Mbps connected to either a 10BaseT or a 100BaseTX network, while remaining completely 100BaseFX standard-compliant. Fiber connection can also operate in full duplex mode whether the RJ45 port is connected to a full duplex switch or a half duplex hub.

10/100BaseT/TX Switching Mini Fiber Optic Media Converters

PART NO.	DESCRIPTION
065-1000	10/100BaseT/TX to 100BaseFX, Multimode/ST, 2 km
065-1010	10/100BaseT/TX to 100BaseFX, Multimode/SC, 2 km
065-1020	10/100BaseT/TX to 100BaseFX, Singlemode/SC, 20 km
065-1020ED	10/100BaseT/TX to 100BaseFX, Singlemode/SC, 40 km
065-1020XLD	10/100BaseT/TX to 100BaseFX, Singlemode/SC, 75 km

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX

FIXED PORTS
models 065-1000/1010/1020/1020ED/1020XLD:
1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus
1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fiber optic cable, 2,000 meters maximum distance (model 065-1010 & 065-1010)
or
1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification;
9/125 micron singlemode fiber optic cable, spanning:
20 kilometers maximum distance (model 065-1020)
or
40 kilometers maximum distance (model 065-1020ED)
or
75 kilometers maximum distance (model 065-1020XLD)

PERFORMANCE
Latency: < 4.2 µs (LIFO)
Throughput @ 100Base: 148,809 pps (64-byte packets)

LEDs
Per Port: LNK/ACT TX, LNK/ACT FX
Two LEDs total

PHYSICAL CHARACTERISTICS
Case dimensions (L x W x H):
3.15" x 2.13" x 0.87" (80 mm x 54 mm x 22 mm)
Fiber optic interface varies with model.
Weight: 0.27 pounds (0.122 kg)

SAFETY
UL Listed

Hardened 10/100 To 100BaseFx Converters with LFS

Signamax has responded to the demands of fiber optic deployment in rugged environments by introducing the 065-1800 series of hardened media converters. The 065-1800 series provides flexibility in connector types with the extended temperature and humidity ranges required for high-risk installations. Switching models are available for converting Fast Ethernet twisted pair copper cabling to both multimode and singlemode fiber optic cabling, including models supporting single-strand singlemode fiber requirements using Wave Division Multiplexing (WDM) technology. In addition, Fast Ethernet singlemode to multimode converters round out the line, making Signamax the choice for your harsh environment Fast Ethernet fiber optic conversion needs.

Also Gigabit models available.

Hardened 10/100BaseT/TX to 100BaseFX Converters with LFS

PART NO.	DESCRIPTION
065-1800	10/100 to 100FX MM/ST, 2 km Hardened Converter
065-1810	10/100 to 100FX MM/SC, 2 km Hardened Converter
065-1820	10/100 to 100FX SM/SC, 20 km Hardened Converter
065-1820ED	10/100 to 100FX SM/SC, 40 km Hardened Converter
065-1876A	10/100 to 100FX SM/SC, 20 km Single Fiber WDM Hardened Converter
065-1876B	10/100 to 100FX SM/SC, 20 km Single Fiber WDM Hardened Converter
065-1876AED	10/100 to 100FX SM/SC, 40 km Single Fiber WDM Hardened
065-1876BED	10/100 to 100FX SM/SC, 40 km Single Fiber WDM Hardened
065-1830	100FX SM/SC, 20 km to 100FX MM/ST, 2 km Hardened Converter
065-1830ED	100FX SM/SC, 40 km to 100FX MM/ST, 2 km Hardened Converter
065-1832	100FX SM/SC, 20 km to 100FX MM/SC, 2 km Hardened Converter
065-1832ED	100FX SM/SC, 40 km to 100FX MM/SC, 2 km Hardened Converter
065-11DINMT	DIN rail mounting bracket for 065-11xx series media converters

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX

FIXED PORTS
Switching 10/100 to 100FX models:
1 twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus
1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fiber optic cable, 2,000 meters maximum distance
or
1 SC duplex fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 20 kilometers maximum distance (model 065-1820)
or
40 kilometers maximum distance (model 065-1820ED)
or
1 WDM fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 20 kilometers maximum distance (models 065-1876A and 065-1876B)
or
1 WDM fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 40 kilometers maximum distance (models 065-1876AED and 065-1876BED)
100BaseFX single to multimode models:
1 ST duplex fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fiber optic cable, 2,000 meters maximum distance (models 065-1830 & 065-1830ED)
or
1 SC duplex fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fiber optic cable, 2,000 meters maximum distance (models 065-1832 & 065-1832ED)
plus
1 SC duplex fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 30 kilometers maximum distance (models 065-1830 & 065-1832)
or
60 kilometers maximum distance (models 065-1830ED & 065-1832ED)

PERFORMANCE
Latency: < 4.2 µs (LIFO)
Throughput: 148,809 pps @ 100 Mbps; 14,880 pps @ 10 Mbps (64-byte packets)

LEDs
Switching 10/100 to 100FX models:
Per Unit – Power status, Speed (2 LEDs)
Per Port – LNK/ACT, FDX/COL (2 LEDs)
6 LEDs total
100BaseFX single to multimode models:
Per Unit – Power status (1 LED)
Per Port – SDA or SDB (1 LED)
3 LEDs total

PHYSICAL CHARACTERISTICS
Case dimensions (L x W x H):
5.12" x 4.30" x 1.18"
(130 mm x 110 mm x 30 mm)
Fiber connector protrusion varies with model.
Weight: 1.7 pounds (0.8 kg)
Power:
External power supply; 12 Volts DC; 0.5 A
Operating temperature:
-34° – 74°C (-30° – 165°F)
Storage temperature:
-45° – 93°C (-50° – 200°F)
Operating & Storage Humidity:
10-95%, non-condensing

EMISSIONS
CC part 15 Class A, CE Mark

Stand Alone Managed Switching 10/100 Media Converters

Signamax Connectivity Systems' 065-1600 series Standalone Managed Switching 10/100 Media Converters are individually-housed SNMP-managed media converters available with singlemode and multimode interfaces to provide copper-to-fiber conversion for mission-critical networks. They are typically used as circuit endpoint devices together with the Signamax Managed Media Converter Rack Mount Chassis System to enable network managers to remotely monitor the status of their entire fiber optic Fast Ethernet network all the way to the fiber optic circuit's last termination. An individual SNMP management agent is included with each Signamax 065-1600 series standalone managed converter. Equipped with Link Fault Signaling (LFS) and Loopback Testing capabilities, they extend the enterprise LAN configuration range up to 60 km while simultaneously minimizing downtime and technician dispatch expense.

Standalone Managed Switching 10/100 Media Converters

PART NO.	DESCRIPTION
065-1600	10/100BaseT/TX to 100BaseFX Converter ST Multimode
065-1610	10/100BaseT/TX to 100BaseFX Converter SC Multimode
065-1620	10/100BaseT/TX to 100BaseFX Converter SC Singlemode (30 km span)
065-1620ED	10/100BaseT/TX to 100BaseFX Converter SC Singlemode (60 km span)
065-1620XLD	10/100BaseT/TX to 100BaseFX Converter SC Singlemode (90 km span)
065-1676A	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (20 km span)
065-1676B	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (20 km span)
065-1676AED	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (40 km span)
065-1676BED	10/100BaseT/TX to 100BaseFX Converter WDM Singlemode (40 km span)

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX

FIXED PORTS
1 twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus
1 fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 62.5/125 or 50/125 micron multimode fiber optic cable, 2,000 meters maximum distance **or**
1 SC duplex fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 20 kilometers maximum distance (model 065-1620) **or**
40 kilometers maximum distance (model 065-1620ED) **or**
60 kilometers maximum distance (model 065-1620XLD) **or**
1 WDM fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 20 kilometers maximum distance (models 065-1676A and 065-1676B) **or**
1 WDM fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning: 40 kilometers maximum distance (models 065-1676AED and 065-1676BED)

PERFORMANCE
Latency: < 0.25 µs (LIFO)
Throughput: 148,809 pps (64-byte packets)

PHYSICAL CHARACTERISTICS
Dimensions (L x W x H):
10.5" x 5.0" x 1.73"
(267 mm x 126 mm x 44 mm)
Fiber connector protrusion varies with model.
Weight: 2.2 pounds (1.0 kg)
Power: Internal power supply; 90-240 Volts AC
Operating temperature: 0° – 50°C (32° – 122°F)
Storage temperature: -20° – 70°C (-4° – 158°F)
Operating humidity: 10-80%, non-condensing
Storage humidity: 5-90%, non-condensing
EMI: FCC part 15 Class A, CE Mark

Gigabit Media Converters

Signamax Connectivity Systems' Gigabit Ethernet Media Converters make it simple to extend distances over multimode or singlemode fiber. They are designed to expand the scope of your Gigabit Ethernet network applications and are 100% compliant with Ethernet IEEE 802.3ab and 802.3z specifications. These converters maintain the same form factor as other Signamax media converters, allowing use in the model 065-1185 16-Bay Signamax Rack Mount Chassis. Twisted pair to fiber optic converters for both multimode and singlemode fiber, multimode to singlemode converters, and singlemode to singlemode extenders are available.

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseLX
IEEE 802.3z 1000BaseSX

FIXED PORTS
One twisted-pair port meeting IEEE 802.3ab standard specification; Category 5e or better cable, 100 meters maximum distance
and/or
One fiber optic port meeting IEEE 802.3z standard; 62.5/125 micron multimode fiber optic cable, 220 meters maximum distance or 50/125 micron multimode fiber optic cable, 550 meters maximum distance (model 065-1194 & 065-1195)
or
1 fiber optic port meeting IEEE 802.3z 1000BaseLX standard specification; 9/125 micron singlemode fiber optic cable, spanning 10 kilometers maximum distance (model 065-1194 & 065-1197)
or
20 kilometers maximum distance (models 065-1194ED, 065-1197ED & 065-1198XLD)

PERFORMANCE
1,488,000 packets per second at 1,000 Mbps

LEDs
Power; TX; RX; FDX/COL; LNKF; LNKC (or LNK1; LNK2, model 065-1198XLD)

PHYSICAL CHARACTERISTICS
Dimensions (L x W x H):
4.33" x 3.19" x 0.91" (110 mm x 81 mm x 23 mm)
Weight: 0.33 pounds (150 grams)

SAFETY
UL Listed

Gigabit Ethernet Media Converters

PART NO.	DESCRIPTION
065-1194	1000BaseSX to 1000BaseLX Gigabit Ethernet SC multimode to SC singlemode media converter, 10 km span
065-1194ED	1000BaseSX to 1000BaseLX Gigabit Ethernet SC multimode to SC singlemode media converter, 20 km span
065-1195	1000BaseT to 1000BaseSX Gigabit Ethernet media converter, SC multimode
065-1197	1000BaseT to 1000BaseLX Gigabit Ethernet media converter, SC singlemode, 10 km span
065-1197ED	1000BaseT to 1000BaseLX Gigabit Ethernet media converter, SC singlemode, 20 km span
065-1198XLD	1000BaseLX to 1000BaseLX Gigabit Ethernet fiber optic repeater, SC singlemode, 20 km span each port
065-11DINMT	DIN rail mounting bracket for 065-11xx series media converters

10/100/1000 Switching Fiber Optic Media Converters

Signamax Connectivity Systems' 10/100/1000 Switching Media Converter provides an intelligent solution for long distance connections between legacy 10BaseT and 100BaseTX networks and the newer 1000Base Gigabit Ethernet networks. The built-in 10/100/1000 switch enables the fiber optic connection to operate at 1,000 Mbps connected to either a 10BaseT, 100BaseTX, or a 1000BaseT network, while remaining completely 1000BaseSX standard-compliant for the fiber optic connection. The fiber connection can also operate in full duplex mode whether the RJ45 port is connected to a full duplex switch or a half duplex hub.

Each model 065-1196 Media Converter provides a 10/100/1000BaseT/TX auto-negotiating RJ45 twisted-pair connector port featuring store-and-forward switching architecture. Built-in switch does the network segmentation to provide the maximum fiber distance. Auto-MDIX capability on the twisted-pair port allows convenient connection.

10/100/1000 Switching Converters

PART NO.	DESCRIPTION
065-1196	10/100/1000BaseT/TX to 1000BaseSX, Multimode/SC
065-1196LX	10/100/1000BaseT/TX to 1000BaseLX, Singlemode/SC (10 km span)
065-1196LXED	10/100/1000BaseT/TX to 1000BaseLX, Singlemode/SC (20 km span)
065-11DINMT	DIN Rail mounting bracket for 065-11xx series media converters

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX/LX

FIXED PORTS
1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT, IEEE 802.3u 100BaseTX & IEEE 802.3ab 1000BaseT standard specifications; Category 5e or better cable, 100 meters maximum distance for 1000BaseT, Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT

plus
1 fiber optic port meeting IEEE 802.3z 1000BaseSX standard specification; 62.5/125 micron multimode fiber optic cable, 220 meters maximum distance, or 50/125 micron multimode fiber optic cable, 550 meters maximum distance (model 065-1196)
or
1 fiber optic port meeting IEEE 802.3z 1000BaseLX standard specification; 9 micron singlemode fiber optic cable, 10 km maximum distance (model 065-1196LX)
or
1 fiber optic port meeting IEEE 802.3z 1000BaseLX standard specification; 9 micron singlemode fiber optic cable, 20 km maximum distance (model 065-1196LXED)

PERFORMANCE
Latency: < 4.2 µs (LIFO)
Throughput @ 100Base: 148,809 pps (64-byte packets)
Throughput @ 1000Base: 1,488,100 pps (64-byte packets)

LEDs
Per unit: Power status, RJ45 port speed
Per Port: LNK/ACT, FDX/COL
Six LEDs total

PHYSICAL CHARACTERISTICS
Case dimensions (L x W x H):
4.33" x 3.19" x 0.91"
(110 mm x 81 mm x 23 mm)
Fiber optic interface varies with model.
Weight: 0.33 pounds (150 grams)

SAFETY
UL Listed

Single Fiber WDM Converters

Signamax Connectivity Systems' Switching Single Fiber Wave Division Multiplexing (WDM) Media Converters with Link Fault Signaling allow data typically carried over two strands of fiber optic cable to be carried over a single strand of fiber optic cable, utilizing two different wavelengths to carry signals in both directions simultaneously. This technology doubles the capacity of a company's fiber optic network, allowing a carrier or an enterprise business to minimize its operational costs by eliminating or delaying the deployment of additional fiber optic capacity. These converters are available in singlemode only, and span distances of up to 40 kilometers (24.85 miles) with the 065-1176AEDLFS and 065-1176BEDLFS models.

Since WDM Switching Media Converters utilize two different wavelengths with one end of a circuit transmitting on the other end's receive frequency (and vice versa), they must be used in A/B pairs. A circuit utilizing these converters would therefore use a single strand of singlemode fiber optic cable plus one each of the 065-1176ALFS and 065-1176BLFS, or one each of the 065-1176AEDLFS and 065-1176BEDLFS and 065-1176BLFS, depending upon the distance spanned. All Signamax WDM converters are equipped with Link Fault Signaling to provide the means for an SNMP-managed switch to recognize a failure on a fiber channel or twisted-pair connection, enabling the switch to automatically route to a backup path if the connected switch is equipped with Spanning Tree Algorithm. Each WDM Media Converter provides a 10/100BaseT/TX auto-negotiating RJ45 twisted-pair connector port, and features store-and-forward switching architecture. Auto-MDIX capability on the twisted-pair port is also provided for convenient connections.

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX

FIXED PORTS
1 Auto-MDIX twisted-pair port meeting IEEE 802.3 10BaseT & IEEE 802.3u 100BaseTX standard specifications; Category 5 or better cable, 100 meters maximum distance for 100BaseTX, Category 3 or better cable, 100 meters maximum distance for 10BaseT
plus
1 WDM fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning 20 kilometers maximum distance (models 065-1176ALFS and 065-1176BLFS)
or
1 WDM fiber optic port meeting IEEE 802.3u 100BaseFX standard specification; 9/125 micron singlemode fiber optic cable, spanning 40 kilometers maximum distance (models 065-1176AEDLFS and 065-1176BEDLFS)

PERFORMANCE
Latency: < 4.2 µs (LIFO) Throughput @
100Base: 148,809 pps (64-byte packets)

LEDs
Per unit: Power status, RJ45 port speed
Per Port: LNK/ACT, FDX/COL
Six LEDs total

SIGNAMAX
CONNECTIVITY SYSTEMS
Media Converter 065-1176ALFS
10/100BaseT/TX to 100BaseFx with Link Fault Signaling, 20 km, Tx=1310 nm; Rx=1550 nm

PHYSICAL CHARACTERISTICS
Case dimensions (L x W x H): 4.33" x 3.19" x 0.91" (110 x 81 x 23 mm)
Fiber optic interface varies with model.
Weight: 0.33 pounds (150 grams)
USB power connector on the rear panel optionally powers converter from computer's USB port.

SAFETY
UL Listed

Single Fiber WDM Media Converters (Fiber type: Simplex SC Singlemode)

PART NO.	DESCRIPTION	FIBER TYPE
065-1176ALFS	10/100BaseT/TX to 100BaseFX, SM/SC, 20 km, Tx=1,310 nm; Rx=1,550 nm	Simplex SC Singlemode
065-1176BLFS	10/100BaseT/TX to 100BaseFX, SM/SC, 20 km, Tx=1,550 nm; Rx=1,310 nm	Simplex SC Singlemode
065-1176AEDLFS	10/100BaseT/TX to 100BaseFX, SM/SC, 40 km, Tx=1,310 nm; Rx=1,550 nm	Simplex SC Singlemode
065-1176BEDLFS	10/100BaseT/TX to 100BaseFX, SM/SC, 40 km, Tx=1,550 nm; Rx=1,310 nm	Simplex SC Singlemode
065-11DINMT	DIN rail mounting bracket for 065-11xx series media converters	

Singlemode to Multimode Converters

Signamax Connectivity Systems' Singlemode to Multimode Converters provide efficient solutions for interconnecting multimode fiber LANs over longer distances by integrating singlemode fiber optic cable into the LAN. They also enable Ethernet LAN and WAN connectivity, by providing a multimode interface to singlemode fiber carrier demarcation points. Models are available for singlemode to multimode conversion between Fast Ethernet devices, or for Asynchronous Transfer Mode (ATM) applications transported over a Synchronous Optical Network (SONET). Each Media Converter is enclosed in a compact, strong metal case and includes an external power supply for stand-alone applications. They can also be installed without modification in the Signamax 065-1185 Rack Mount Chassis system, featuring redundant power supplies for high reliability in multiple converter installations.

SPECIFICATIONS

APPLICABLE STANDARDS
Ethernet IEEE 802.3u
Asynchronous Transfer Mode (ATM)
155 Mbps Specifications (model 065-1190)
Asynchronous Transfer Mode (ATM)
622 Mbps Specifications
(model 065-1190HS)
Synchronous Optical Network (SONET)
Optical Carrier – 3 (OC-3) Specifications
(model 065-1190)
Synchronous Optical Network (SONET)
Optical Carrier – 12 (OC-12)
Specifications (model 065-1190HS)
Synchronous Digital Hierarchy (SDH)
STM-1 Specifications (model 065-1190)
Synchronous Digital Hierarchy (SDH)
STM-4 Specifications (model 065-1190HS)

FIXED PORT SPECIFICATIONS
models 065-1130, 065-1130ED, 065-1130XLD:
ST connector; 2,000 meters max. distance
100BaseFX multimode fiber optic interface,
models 065-1132, 065-1132ED, 065-1132XLD:
SC connector; 2,000 meters max. distance
100BaseFX multimode fiber optic interface,
models 065-1130, 065-1130ED, 065-1130XLD, 065-1132, 065-1132ED & 065-1132XLD:
SC connector, 100BaseFX singlemode fiber interface; Standard model:
15 kilometers max. distance
ED model: 40 kilometers max. distance
XLD model: 75 kilometers max. distance
SONET OC-3 / ATM 155 Mbps multimode fiber optic interface, model 065-1190:
ST connector; 2,000 meters max. distance
SONET OC-3 / ATM 155 Mbps singlemode fiber optic interface, model 065-1190:
SC connector; 20 kilometers max. distance
SONET OC-12 / ATM 622 Mbps multimode fiber optic interface, model 065-1190HS:
ST connector; 2,000 meters max. distance
SONET OC-12 / ATM 622 Mbps singlemode fiber optic interface, model 065-1190HS:
SC connector; 20 kilometers max. distance

PERFORMANCE
Delay: less than 21 bit times

PHYSICAL CHARACTERISTICS
Case dimensions (L x W x H):
4.33" x 3.19" x 0.91"
(110 mm x 81 mm x 23 mm)
Fiber optic interface varies with model.
Weight: 0.33 pounds (150 grams)

SAFETY
UL Listed

Singlemode to Multimode Converters

PART NO.	DESCRIPTION
065-1130	100BaseFX SC Singlemode (15 km span) to ST Multimode
065-1130ED	100BaseFX SC Singlemode (40 km span) to ST Multimode
065-1130XLD	100BaseFX SC Singlemode (75 km span) to ST Multimode
065-1132	100BaseFX SC Singlemode (15 km span) to SC Multimode
065-1132ED	100BaseFX SC Singlemode (40 km span) to SC Multimode
065-1132XLD	100BaseFX SC Singlemode (75 km span) to SC Multimode
065-1190	ATM 155 Mbps / SONET OC-3 SC Singlemode (20 km span) to SC Multimode
065-1190HS	ATM 622 Mbps / SONET OC-12 SC Singlemode (20 km span) to SC Multimode
065-11DINMT	DIN rail mounting bracket for 065-11xx series media converters

12-Port Rack Mount Media Converters

The Signamax 065-1200 12-Channel Rack Mount Media Converter is a perfect solution for large installations that utilize many of the same type of media converters. The 065-1200 contains 12 channels of media conversion in a standard rack mountable case only one rack unit high. This extremely high port density allows the maximum number of media converter channels per rack for enterprise-level businesses and carriers. Redundant fan-cooled power supplies ensure maximum system uptime.

The 065-1200 has a choice of configurations, utilizing the same technology and connector types as the standalone media converters in the 065-1100 series for 10/100BaseT/TX to 100BaseFX conversion. Standard or Link Fault Signaling (LFS) versions are available. In addition, the 065-1200 can be optionally equipped with twelve channels of Gigabit Ethernet 1000BaseT to 1000BaseSX media conversion, replacing twelve 065-1195 converters.

12-Port Rack Mount Media Converter

PART NO.	DESCRIPTION
065-1200ST00	10/100BaseT/TX to 100BaseFX Converters ST Multimode
065-1200SC10	10/100BaseT/TX to 100BaseFX Converters SC Multimode
065-1200VF70	10/100BaseT/TX to 100BaseFX Converters VF45 Multimode
065-1200MT72	10/100BaseT/TX to 100BaseFX Converters MTRJ Multimode
065-1200LC74	10/100BaseT/TX to 100BaseFX Converters LC Multimode
065-1200SC20	10/100BaseT/TX to 100BaseFX Converters SC Singlemode (15 km span)
065-1200SC20ED	10/100BaseT/TX to 100BaseFX Converters SC Singlemode (40 km span)

Please see specification sheet for additional configurations.
Add "LFS" to the above part numbers for Link Fault Signaling version.
Also gigabit models available.

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX
IEEE 802.3ab 1000BaseT
IEEE 802.3z 1000BaseSX

FIXED PORTS
Twelve channels of media conversion, each with a twisted pair port and a corresponding fiber optic port meeting either of the following specifications:
065-11xx series and 065-11xxLFS series versions:
10/100BaseT/TX to 100BaseFX, multimode fiber; choice of SC, ST, VF45 or MTRJ connectors; maximum distance: 2,000 meters
10/100BaseT/TX to 100BaseFX, singlemode fiber, SC connectors; MTRJ connectors available on request. Maximum distance: up to 75 kilometers

LEDs:
Per unit: Power status, Speed (2 LEDs)
Per port: LNK/ACT, FDX/COL (2 LEDs)

065-1195 version:
1000BaseT to 1000BaseSX, multimode fiber, SC connectors; MTRJ connectors available on request. Maximum distance, 1000BaseSX port: 220 meters over 62.5 micron multimode fiber or 550 meters over 50/125 micron multimode fiber (full duplex only)

LEDs:
Per unit: Power status, FDX/COL, TX, RX (4 LEDs)
Per port: LNKF for fiber port, LNKC for copper port (1 LED each)

PHYSICAL CHARACTERISTICS
Dimensions (W x D x H):
17.3" x 8.0" x 1.8"
(440 mm x 205 mm x 45 mm)
Weight: 6.8 lbs (3.1 kg) maximum
Standard 19" rack mounting (hardware included)

SAFETY
UL 1950

16-Bay Media Converter Rack Mount Chassis

The Signamax 065-1185 16-Bay Media Converter Rack Mount Chassis provides higher rack mount media converter density for large installations that can accommodate rear access to the chassis for power supply maintenance. The 065-1185 provides 16 bays of space for all 065-11xx series Signamax media converters in a standard two rack unit high enclosure. High port density allows a variety of media converter solutions to be utilized in a minimum amount of rack space for enterprise-level businesses and carriers. Redundant, fan-cooled load-sharing power supplies can be hot-swapped to ensure maximum system uptime.

The 065-1185 has a choice of power supply configurations, supporting AC power for 110 volt or 220 volt power systems or -48 volt DC power for carrier operations.

16-Bay Media Converter Rack Mount Chassis

PART NO.	DESCRIPTION
065-1185	16-Bay Rack Mount Media Converter Chassis System, includes 2 Redundant AC Power Supplies & 4 Fan Cooling Assemblies
065-1185DC	16-Bay Rack Mount Media Converter Chassis System, includes 2 Redundant -48 V DC Power Supplies & 4 Fan Cooling Assemblies
FO-AC-1185	Spare Redundant AC Power Supply for 16-Bay Chassis
FO-DC-1185	Spare Redundant -48 V DC Power Supply For 16-Bay Chassis
FO-1185FAN	Spare Individual Fan Assembly For 16-Bay Chassis

SPECIFICATIONS

CAPACITY
Sixteen bays, for up to sixteen 065-11xx series media converters.

LEDs
Power 1/Power 2: Power supply on-line

SAFETY
UL 1950 listed
Cooling Fans: UL/cUL/TUV Listed/Approved.

PHYSICAL CHARACTERISTICS
Dimensions (L x W x H): 17.3" x 10.9" x 3.5" (440 mm x 276 mm x 90 mm)
2 standard rack units
Weight: Approximately 18.7 pounds (8.5 kg), fully loaded

POWER SUPPLIES
Load-sharing and hot-swappable; 2 supplied as standard equipment. AC and -48 Volt DC units available.
Power status LED on each power supply, as well as remote status LEDs on front panel.

18-Bay Rack Mount Managed Media Converter Chassis System

The Signamax™ 065-1480 18-Bay Managed Media Converter Rack Mount Chassis provides full SNMP management capabilities for mission-critical installations. The 065-1480 provides 18 bays of space for all 065-14xx series Signamax managed media converters in a standard 2U high enclosure. It also includes the 065-1481 Management Module, which communicates with the Signamax 065-14xx series media converters on the chassis' backplane. It provides full status information on the individual media converter's ports and allows the advanced management capabilities of the 065-14xx series managed media converters to be switched on or off remotely and individually. Diagnostic testing from a centralized location avoids unnecessary technician dispatch. Alarm traps can be sent to up to five remote IP addresses simultaneously, allowing integration within a variety of Network Management Systems. In-band and out-of-band management are supported by local and remote Telnet console Command Line Interface (CLI), a web browser-based Graphical User Interface (GUI), and a menu-driven interface.

Two fully redundant, load-sharing power supplies are standard, to ensure continued availability of the media converters in the event of a power supply failure. Either power supply is hot-swappable and can be taken off-line and removed from the unit while the media converters are operating; the media converters themselves are also hot-swappable. The 065-1480 also ships standard with three fully redundant, load-sharing cooling fans to ensure reliable operation.

18-Bay Rack Mount Managed Media Converter Chassis System

PART NO.	DESCRIPTION
065-1480	18-Bay Rack Mount Managed Media Converter Chassis System; includes 065-1481 SNMP Management Module, 2 Redundant AC Power Supplies, & 3 Fan Cooling Assemblies
065-1480DC	18-Bay Rack Mount Media Converter Chassis System; includes 065-1481 SNMP Management Module, 2 Redundant -48 V DC Power Supplies, & 3 Fan Cooling Assemblies
065-1481	Spare SNMP Management Module
AC-1480	Spare Redundant AC Power Supply for 18-Bay Chassis
DC-1480	Spare Redundant -48 V DC Power Supply For 18-Bay Chassis
1480FAN	Spare Individual Fan Assembly For 18-Bay Chassis

SPECIFICATIONS

065-1480 Chassis

CAPACITY
Eighteen bays for up to eighteen 065-14xx Media Converters

CONSTRUCTION
SECC zinc-coated steel

COOLING
One 42.5 cfm rear-mounted fan, plus one fan for each of the two redundant power supplies.

LEDs
Power (2x): Power supply on-line
FAN (3x): Fan status

DIMENSIONS (W x D x H)
17.3" x 10.9" x 3.5"
(440 mm x 276 mm x 90 mm)
2 standard rack units

WEIGHT
Approximately 29.7 pounds
(13.5 kilograms), fully loaded

POWER SUPPLIES—LOAD SHARING AND HOT-SWAPPABLE
(2 supplied as standard equipment)
Input:
model 065-1480: 90-240 Volts AC, 47-63 Hz
model 065-1480DC: -48 Volts DC
Output:
Normal +12 Volts DC (Min. +11.88 Volts, max. +12.12 Volts, 7.0 Amps)
Total Regulation:
+/- 1.0%, Rip. 120 mV, Load 1.0%, Line 0.5%
Overload Protection:
All outputs protected against short circuit conditions; automatic recovery
Excess Voltage Protection:
Output level exceeding 13.2 Volts causes shutdown; automatic recovery
Temperature:
Operating: 0° – 40°C (32° – 104°F)
Storage: -25° – 70°C (-13° – 158°F)
EMI: FCC Part 15 Class A, CE Class A
Safety: UL 1950 Listed

065-1481 Management Module

PROTOCOLS SUPPORTED
TCP, UDP, ICMP, IP, ARP

SERVICE
HTTP, Telnet, SNMP, TFTP

PORTS
DB-9 Serial Data (x1),
RJ45 10/100BaseT/TX (x1)

LEDs
Power, System, Alert, 10/100 speed, Link/ACT

MIB SUPPORTED
MIB II, RMON

PHYSICAL CHARACTERISTICS
Storage temp.: -40° – 80°C (-40° – 176°F)
Operating temp.: 0° – 50°C (32° – 122°F)
Maximum altilude: 10,000 ft.
Dimensions (L x W x H):
6.75" x 2.72" x 0.85"
(171.5 mm x 69 mm x 21.5 mm)
Weight: 0.33 pounds (115 grams)
EMI: FCC Part 15 Class A, CE Class A

NETWORK CONNECTIVITY SYSTEMS

SIGNAMAX
CONNECTIVITY SYSTEMS

Ethernet Switches

- 10/100 Desktop Switches
- Fast Ethernet 8-Port Desktop Switch
- Fast Ethernet 16-Port Desktop Switch
- 10/100 Rack Mount Switches
- 10/100 WebSmart Switches
- Gigabit Access Switch
- Gigabit Access PoE switch
- Gigabit Ethernet Access Switch
- Gigabit Desktop Switches
- Gigabit Ethernet Switches
- Gigabit WebSmart Switches
- Gigabit Management Switch
- Gigabit Management POE Switches
- Fiber Desktop Access Switch
- Fiber Desktop Managed Access Switch
- Fiber Rackmount 100BaseFX Switch
- Fiber Rackmount 100FX Managed Switch
- Fiber Gigabit Acces Switch
- Broadband Access Routers

5- & 8-Port 10/100 Desktop Switches

Signamax desktop 5 Port is the most cost-effective solution to share network for SOHO users. Without any confusing installation and configuration, this Plug-&-Play super-compact switch instantly provides reliable network with five new and independent bandwidths with the utmost hardware flexibility.

In addition, each 10/100 Mbps port is equipped with built-in Auto-MDI/MDI-X and Auto-negotiation functions. With the user-friendly and hassle-free features, this switch is designed to reliably meet the diverse performance demands of mid-size network, which do not require management capabilities.

SPECIFICATIONS

Model 065-7025

APPLICABLE STANDARDS
IEEE 802.3:10BASE-T
IEEE 802.3u: 100BASE-TX
IEEE 802.3x: Flow-control

PORTS
Five ports: 10BASE-T /100BASE-TX
Media Support: 10BASE-T: Category 3, 4 or 5 TP 100BASE-TX: Category 5 TP
Connector: STP RJ45 port for TX
Bandwidth: 10BASE-T/100BASE-TX: 10/20/100/200 Mbps, via Auto-negotiation
Duplex Modes: All Ports support Auto-negotiation and Auto-MDI-/MDI-X functions
Crossover: Supports Auto-MDI/MDI-X Crossover function

LEDs
One LED displays Power On/Off status
One LED per port displays Link/Activity status
Input Power Requirement: +9VDC (0.5 – 1A)

ENVIRONMENT
Operating Temp: 0° – 50°C (32° – 122°F)
Storage Temp: -20° – 70°C (-4° – 158°F)
Humidity: 10-90% Noncondensing

CERTIFICATIONS
FCC Part 15 Class B
CE Class B

DIMENSIONS (L x W x H)
6.26" x 5.11" x 0.98" (159 mm x 130 mm x 25 mm)

Model 065-7028

APPLICABLE STANDARDS
100BASE-TX, IEEE 802.3u
10BASE-T, IEEE 802.3

PORTS
Eight 100BASE-TX/10BASE-T
Media Support: 100BASE-TX Category 5 TP10BASE-T Category 3, 4 or 5 TP
Connector: STP RJ45 port for TX
Bandwidth: 100BASE-TX/10BASE-T – 200/100/20/10 Mbps, via Auto-Negotiation
Duplex Modes: All ports support Half-Duplex or Full-Duplex operation
Crossover: Supports Auto-MDI/MDI-X Crossover function

LEDs
One LED for Power On/Off
One LED per port for Link (Green) / Activity (Blinking)
Input Power Requirement: +9VDC (0.5 – 1A)
Power Consumption: 9W maximum

ENVIRONMENT
Operating Temp: 0° – 50°C (32° – 122°F)
Storage Temp: -20° – 70°C (-4° – 158°F)
Humidity: 10-90% RH

CERTIFICATIONS
FCC Part 15 Class B
CE Class B

DIMENSIONS (L x W x H)
6.26" x 4.05" x 0.91" (159 mm x 103 mm x 23 mm)

Model 065-7025

Model 065-7028

5- & 8-Port 10/100 Ethernet Desktop Switches

PART NO.	DESCRIPTION
065-7025	5-Port 10/100BaseT/TX Desktop Ethernet Mini Switch
065-7028	8-Port 10/100BaseT/TX Desktop Ethernet Mini Switch

FEATURES

- **Non-blocking Performance Improves Access to Network Resources**
- **Five/eight Independent Bandwidths with 10 Mbps – 200 Mbps Capability**
- **All Ports Support Auto-negotiation and Auto-MDI/MDI-X to Facilitate Installation and Troubleshooting**
- **Full Wire Speed Store-and-Forward Technology Instantly Eliminates Bad Packets**
- **Automatic Source Address Learning and Aging**
- **Support 1K MAC Address**
- **Built-in High Efficiency SRAM for Packet Buffer**
- **Support IEEE 802.3x Flow-control for Full-duplex and Back-pressure Flow-Control for Half-duplex**
- **Delicate Plastic Palm Size with an External Power Adapter**
- **Easy-to-Understand LEDs Display Real-time Traffic Status to Monitor and Diagnose the Network**
- **Built-in High Efficiency SRAM for Packet Buffer**
- **Broadcast Storm Filter, Runt and CRC Filtering Eliminate Erroneous Packets to Optimize the Network Bandwidth**
- **Support Power Saving Mode by Cable Detection**

Fast Ethernet 8-Port Desktop Switch

This newly redesigned Signamax 065-7013 8-Port 10/100 Switch can significantly increase your network speed. A switch serves the same function as a hub in a network design tying your network equipment together. But unlike a simple-minded hub which divides the network's bandwidth among all the attached devices, a switch delivers full network speed at each port. Installing this cost-effective Signamax 8-Port 10/100 Switch can potentially increase your network speed by eight times! It's the perfect way of integrating 10 Mbps Ethernet and 100 Mbps Fast Ethernet devices, too. All ports are auto negotiating, and have automatic MDI/MDI-X crossover detection, so you don't have to worry about the cable type. Each port independently negotiates for best speed and half- or full-duplex mode, for up to 200 Mbps of bandwidth per port. Fast store-and-forward switching prevents damaged packets from being passed on into the network. The new, ultra-compact case design is sure to fit into your workgroup environment. Let the Signamax 8-Port 10/100 Switch kick your 10/100 network into high gear.

Fast Ethernet 8-Port Desktop Switch

PART NO.	DESCRIPTION	POWER SUPPLY
065-7013	Desktop Switch, 8-Port 10/100BaseT, RJ45, Metal Case	External

FEATURES

- **Non-blocking Performance Improves Access to Network Resources**
- **Eight Independent Bandwidths with 10Mbps up to 200Mbps Capability**
- **All Ports Support Auto-negotiation and Auto-MDI/MDI-X to Facilitate Installation and Troubleshooting**
- **Full Wire Speed Store-and-Forward Technology Instantly Eliminates Bad Packets**
- **Support IEEE 802.3x Flow-control for Full-duplex and Back-pressure Flow-Control for Half-duplex**
- **Delicate Plastic Palm Size with an External Power Adapter Support 1K MAC Addresses**
- **Built-in High Efficiency SRAM for Packet Buffer Easy-to-Understand LEDs Display Real-time Traffic Status to Monitor and Diagnose the Network**
- **Built-in High Efficiency SRAM for Packet Buffer**
- **Broadcast Storm Filter, Runt and CRC Filtering Eliminate Erroneous Packets to Optimize the Network Bandwidth**
- **Support Power Saving Mode by Cable Detection**
- **256K Bytes Memory Buffer**
- **8K Bytes MAC Address Entries (Maximum)**
- **Filtering/Forwarding rate: 148,800 packets/sec. Per Port Maximum.**
- **External Power Adapter with Metal Case**
- **FCC Part 15 Class A, CE Class A**

SPECIFICATIONS

APPLICABLE STANDARDS
- Complies with the IEEE802.3 10Base-T Ethernet, IEEE802.3u 100Base-TX
- 100BASE-TX/10BASE-T – 200/100/20/10Mbps, via Auto-Negotiation
- 8-ports 10/100 Mbps TX Auto-Negotiation Ethernet Switch
- Full/Half-Duplex capability on every TX port
- Supports TP interface Auto MDIX function for auto TX/RX switching
- Automatic Source MAC Address Learning and Aging
- Supports Store & Forward architecture and performs forwarding and filtering
- Broadcast Storming Filter function
- IEEE802.3x flow control for Full-duplex
- Back Pressure function for Half-duplex operation
- Runt and CRC Filtering eliminates erroneous packets to optimize the network bandwidth
- Support to handle up to 1,522-Byte packet

LEDs FOR SIMPLE DIAGNOSTICS AND MANAGEMENT
One LED for Power On/Off
One LED per port for Link (Green) / Activity (Blinking)

INPUT POWER REQUIREMENT
+9VDC, (0.5 – 1A)

POWER CONSUMPTION
9W maximum

ENVIRONMENT
Operating Temp: 0° – 50°C (32° – 122°F)
Storage Temp: -20° – 70°C (-4° – 158°F)
Humidity: 10-90% RH

DIMENSIONS (L x W x H)
6.26" x 4.05" x 0.91" (159 mm x 103 mm x 23 mm)
Plug and Play

Fast Ethernet 16-Port Desktop Switch

The Signamax 16-port Ethernet Switches are designed to allow simultaneous transmission of multiple packets via an internal high-speed data channel. This means that it can partition a network more efficiently than bridges or routers in most environments. Signamax 16-port Ethernet Switch is a highly reliable network Switch and is the ideal device for bridging Ethernet to Fast Ethernet workgroups or networks. Simple and cost-effective, the Signamax Switch supports IEEE 802.3 10Base-T Ethernet and IEEE 802.3u 100Base-TX Fast Ethernet. This Switch is therefore fast being recognized as one of the most important building blocks of current networking technology. The front panel of the Switch provides LEDs for easy recognition of the Switch operation status and for troubleshooting. These LEDs display the power status of the system and link status speed, collision and receives status for each port. With Signamax 16-port Ethernet Switch designed specifically for connecting workgroup devices and desktops, companies no longer have to invest in expensive and inflexible switches engineered primarily for backbone implementations. Instead, companies can deploy scaleable, affordable Switch that increases the aggregate bandwidth of the network by boosting throughput to the workgroups that need it most.

Fast Ethernet 16-Port Desktop Switch

PART NO.	DESCRIPTION
065-7031	Desktop Switch 16-Port 10/100BaseT RJ45

SPECIFICATIONS

APPLICABLE STANDARDS
- Complies with the IEEE802.3 10Base-T Ethernet and IEEE802.3u 100Base-TX Fast Ethernet standard
- 16 ports 10/100 Mbps TX Auto-Negotiation Ethernet Switch
- Full/Half-Duplex capability on every TX port
- Supports TP interface Auto MDIX function for auto TX/RX switching
- Automatic Source MAC Address Learning and Aging
- Supports Store & Forward architecture and performs forwarding and filtering
- Broadcast Storming Filter function
- IEEE802.3x flow control for Full-duplex operation
- Back Pressure function for Half-duplex operation
- Runt and CRC Filtering eliminates erroneous packets to optimize the network bandwidth
- Support to handle up to 1522-Byte packet
- LEDs for simple diagnostics and management
- Internal power supply
- Plug and Play
- 10BASE-T: CAT 3, 4 or 5 TP, 100BASE-TX: CAT 5 TP Media Support

BANDWIDTH
10BASE-T: 10/20 Mbps
100BASE-TX: 100/200 Mbps
Connector: STP RJ45 port for TX

LEDs
One for Power
One per port for Link/ACT
One per port for Full-Duplex or Collision

INPUT POWER REQUIREMENT
100 – 240VAC, 50 – 60 Hz, Auto-sensing

TEMPERATURE
Operating Temp: 0° – 45°C (32° – 113°F)
Storage Temp: -20° – 70°C (-4° – 158°F)
Humidity: 10-90% RH

ENVIRONMENT
FCC Part 15 Class A, CE Class A Certification

DIMENSIONS (L x W x H)
280 mm x 173 mm x 44 mm

10/100BaseT/TX Rack Mount Unmanaged Ethernet Switch

Signamax Connectivity Systems' 10/100BaseT/TX Ethernet Switches feature 16 or 24 10/100 ports, with the 065-7331 and 065-7341 model offering an optional 100BaseFX multimode or singlemode fiber module for longer distance network connections. Fiber optic multimode or singlemode expansion module options allow installation of fiber cabling anywhere within your existing copper-based network. These model transparently pass packets of up to 1,522 bytes, allowing their use in networks utilizing IEEE 802.1p and IEEE 802.1Q tagged packets. In addition, these models support 8K MAC addresses, and provide a true non-blocking switching architecture with full wire speed forwarding. The Signamax 065-7331, and 065-7341 Switches provide a lower-cost answer to today's computing needs and high bandwidth requirements.

Model 065-7341

Model 065-7331

10/100BaseT/TX Rack Mount Switches

PART NO.	DESCRIPTION
065-7331	16-Port 10/100BaseT/TX Switch
065-7341	24-Port 10/100BaseT/TX Switch

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX
IEEE 802.3x Flow Control

LEDs
Per Unit: Power
Per Port: LNK/ACT; 100 Mbps speed indicator

PHYSICAL CHARACTERISTICS
model 065-7331 & 065-7341:
Dimensions (W x D x H):
17.3" x 5.5" x 1.74"
(440 mm x 140 mm x 44 mm)
Weight: 6.2 lbs (2.8 kg)

MEMORY
Packet Buffer Size:
model 065-7331: 512 Kb
model 065-7341: 2.5 Mb
shared packet buffers

PORTS
model 065-7331:
16 – Fixed 10/100BaseT/TX ports, RJ45 connectors with Auto-MDIX (IEEE 802.3u Type 10BaseT & 100BaseTX)
model 065-7341:
24 – Fixed 10/100BaseT/TX ports, RJ45 connectors with Auto-MDIX (IEEE 802.3u Type 10BaseT & 100BaseTX)
Maximum distance:
IEEE 802.3 10BaseT – 2-pair UTP
Cat. 3, 4, 5 or better, up to 100 meters
IEEE 802.3u 100BaseTX – 2-pair UTP
Cat. 5 or better, up to 100 meters

PERFORMANCE
Throughput: 148,800 pps at 100 Mbps
14,880 pps at 10 Mbps (64-byte packets)
MAC Address
Table Size: 8K entries

ENVIRONMENT
Operating:
Temperature: 0° – 40°C (32° – 104°F)
Relative Humidity: 10-90%, non-condensing
Altitude: 10,000 feet (3,048 meters)
Non-Operating/Storage:
Temperature: -25° – 70°C (-13° – 158°F)
Relative Humidity: 10-90%, non-condensing

EMISSIONS
FCC part 15 Class A
CE Mark Class A

16- & 24-Port WebSmart 10/100 Managed Ethernet Switches

Signamax Connectivity Systems' WebSmart 10/100 Ethernet Switches feature 16 or 24 10/100 ports, an optional 100BaseFX multimode or singlemode fiber module for longer distance network connections, and easy web-based administration. Fiber optic multimode or singlemode expansion module options allow installation of fiber cabling anywhere within your existing copper-based network. These switches also include advanced support for port-based Virtual Local Area Networking (VLAN) and multi-port inter-switch trunking for use in larger-scale networks. WebSmart administrative and configuration capabilities provide network administrators with powerful, easy-to-use tools to reduce unnecessary broadcast traffic, flexibly segment networks, and enhance network security—either by a local cable connection or remotely from any convenient location using a standard web browser.

16- & 24-Port WebSmart 10/100 Ethernet Switches

PART NO.	DESCRIPTION
065-7531	16-Port 10/100BaseT/TX WebSmart 10/100 Switch + 1 fiber expansion slot
065-7541	24-Port 10/100BaseT/TX WebSmart 10/100 Switch + 1 fiber expansion slot
Expansion Modules	
065-73SC	100BaseFX Expansion Module For 10/100 Switch – SC Multimode
065-73ST	100BaseFX Expansion Module For 10/100 Switch – ST Multimode
065-73MT	100BaseFX Expansion Module For 10/100 Switch – MTRJ Multimode
065-73VF	100BaseFX Expansion Module For 10/100 Switch – VF45 Multimode
065-73SM	100BaseFX Expansion Module For 10/100 Switch – SC Singlemode (15 km span)
065-73SMED	100BaseFX Expansion Module For 10/100 Switch – SC Singlemode (40 km span)
065-73SMXLD	100BaseFX Expansion Module For 10/100 Switch – SC Singlemode (75 km span)

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX
IEEE 802.3x Flow Control

PORTS
model 065-7531:
16 – RJ45 10/100BaseT/TX Auto-MDIX ports (IEEE 802.3 Type 10BaseT; 802.3u Type 100BaseTX)
1 – open 100BaseFX interface slot
1 – RJ45 10/100BaseT/TX local console port
model 065-7541:
24 – RJ45 10/100BaseT/TX Auto-MDIX ports (IEEE 802.3 Type 10BaseT; 802.3u Type 100BaseTX)
1 – open 100BaseFX interface slot
1 – RJ45 10/100BaseT/TX local console port

ADMINISTRATIVE CAPABILITY
WebSmart console port access via 10/100BaseT/TX connection or via web browser with assigned IP address; permits manual setting of port speed, port duplexity, Flow Control enablement/disablement, as well as establishment and administration of VLAN and/or trunking.

LEDs
Per Switch: Power
Per Console Port: Link, Activity
Per Port: Link/Activity, 100 Mbps Speed

PERFORMANCE
Latency: < 6.0 µs (FIFO)
Throughput: 148,810 pps (64-byte packets)
Switch Fabric Speed:
model 065-7531: 3.6 Gbps
model 065-7541: 6.8 Gbps
Address Table Size:
model 065-7531: 2K MAC addresses
model 065-7541: 8K MAC addresses

PHYSICAL CHARACTERISTICS
Dimensions (W x D x H):
17.3" x 8.2"x 1.74" (440 mm x 207 mm x 44 mm)
Weight: Approximately 6.2 pounds (2.8 kg)

EMISSIONS
FCC Class A, CE Mark

Gigabit Access Switch

The Signamax Gigabit Access Switch 065-7737 with Mini GBIC and SNMP is a powerful, high-performance, layer 2 web-managed SNMP switch, which provides 24*10/100 Mbps Fast Ethernet ports, 2*Gigabit Ethernet ports and 2*mini-GBIC (Mini Gigabit Interface Converter) slots. The 2 Gigabit ports act as the robust pipe which link to the server or backbone for boosting the total system performance. The mini-GBIC slot enables Fiber connections. Either fiber or cooper can be used as the media to connect the Gigabit ports. The cooper Gigabit and mini GBIC ports can be automatically detected and connected.

For network management, the switch is SNMP compatible. Network administrators are allowed to do centralized network management efficiently via remote monitor and control. Also, the performance and security can be enforced easily by the user-friendly web based interface. In addition to the SNMP and Web-based management interface, management through console port is also provided for users to manage the switch in a more flexible way.

To make efficient bandwidth usage, the device not only supports port based VLAN but also provides users with 802.1Q tag based VLAN. Meanwhile, the embedded trunk function allows 7 aggregation groups that up to 4 members within to enlarge the bandwidth between switches. Also, the IGMP snooping and spanning tree are supported to make an unobstructed network.

With sufficient compatibility, the switch is designed to be compliant to all network protocols. Alone with all copper ports are of MDI/MDI-X supporting; users would be able to reduce effort on network infrastructure. The rich diagnostic LEDS and total front panel access design also help with convenient installation and maintenance.

Gigabit Access Switch

PART NO.	DESCRIPTION
065-7737	Gigabit Switch 24-port 10/100BaseT plus 2 Gigabit Dual Media Ports
065-77MM	Mini GBIC Optical module LC Multimode for Gigabit Switch 065-77xx and 065-79xx
065-77SM	Mini GBIC Optical module LC Singlemode for Gigabit Switch 065-77xx and 065-79xx

WDM and CWDM miniGBIC modules available.

SPECIFICATIONS

KEY FEATURES

- Complies with IEEE 802.3, IEEE 802.3u, IEEE802.3x, IEEE 802.3z/ab standards
- Complies with IEEE802.1Q VLAN tag (IVL)
- Complies with IEEE802.1p CoS with 2-level priority
- 24* RJ45 ports for 10/100 Mbps
- 2* RJ45 ports for Gigabit
- 2* Mini GBIC Slots for Flexible Fiber Connection
- Every switching port is automatically cross-over detection (MDI/MDI-X auto-detected)
- The 24* RJ45 ports support bandwidth control
- Supports IGMP snooping
- Supports MIB counters
- Supports port sniffing
- Supports Port Aggregation and up to 7 groups
- Supports port group VLAN and up to 26 groups
- Supports 802.1Q VLAN and up to 255 groups
- Supports 802.1D Spanning Tree
- One RS-232 female console connector
- Supports 8 MB SDRAM for run time data storage
- Supports 2 MB Flash EPROM for cooperation and configuration data storage
- Supports 6K MAC entries
- Supports 3 Mbit packet buffer
- 19” rack mountable
- Internal universal switching power supply
- FCC VCCI Class A, CE

PRODUCT SPECIFICATIONS

Standard
IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3z/ab, IEEE802.1Q, IEEE802.1p, IEEE802.1D standards
Interface
24* 10/100 Mbps RJ45 ports
2* Gigabit+Mini GBIC ports
One Reset button
One RS-232 console port
Protocol Support
Network speed: 10 Mbps, 100 Mbps and 1,000 Mbps
Duplex mode: Full and Half
Software
Embedded web-based management interface
Telnet, SNMP for remote management
Emission: FCC VCCI Class A, CE

LEDs
System: Power, Status
Port: 24* 10/100 Mbps ports
10/100 Mbps (Link; ACT)
2* 10/100/1,000 Mbps ports
1,000 Mbps (Link/Act)
100 Mbps (Link/Act)
10 Mbps(Link/Act)

ENVIRONMENT
Operating Temperature: 0° – 400°C (32° – 1,040°F)
Operating Humidity: 10-90% (non-condensing)
Power Supply: 100 – 240 VAC, 50 – 60 Hz

Gigabit Ethernet Power over Ethernet (PoE) Access Switch

Signamax Connectivity Systems' new stackable Gigabit Ethernet Power over Ethernet (PoE) Access Switch provides the capability to remotely power wireless access points, VoIP telephones, Powered Device (PD) media converters, and other devices that meet the IEEE 802.1af PoE standard. These switches provide non-blocking performance for two 10/100/1000BaseT/TX Dual Media Gigabit Ethernet ports plus 24 10/100BaseT/TX PoE-equipped ports. The 065-7726SPOE switch shares the same SNMP management package as its 065-7726S counterpart. Both ring and star Gigabit backbone network architectures are supported with full automatic failover AND PoE extension to every workstation. Enhanced Layer 3 look-ahead routing features and IEEE 802.1p Quality of Service / 802.1Q Tagged VLAN / IP Type of Service support make the Signamax 065-7726SPOE switch the cost-effective choice for creating an infrastructure capable of supporting Voice over IP telephony and wireless access.

Gigabit Ethernet Power over Ethernet (PoE) Access Switch

PART NO.	DESCRIPTION
065-7726SPOE	24-Port 10/100T/TX Managed PoE Switch plus 2 Gigabit Dual Media Ports
065-77MM	1000BaseSX SFP Module – LC Multimode
065-77SM	1000BaseLX SFP Module – LC Singlemode (10 km)

WDM and CWDM miniGBIC modules available.

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3af Power over Ethernet (PoE)
IEEE 802.3z 1000BaseSX/LX
IEEE 802.1p Priority (Quality of Service [QoS])
IEEE 802.1D/802.1w/802.1s Spanning Tree & Rapid Spanning Tree Protocols
IEEE 802.1Q Tagged VLAN with "Q-in-Q" support
IEEE 802.3x Flow Control
IEEE 802.3ad Link Aggregation
IEEE 802.1x Access Control

PERFORMANCE
Latency: < 4.5 µs (LIFO).
Throughput: 1.48810 million pps (64-byte packets)
Switch Fabric Speed: 48.0 Gbps
PoE – 135W Supported

ADMINISTRATION CONSOLE
1 – RS-232C DB-9 local console serial port

PORTS
24 – RJ45 10/100BaseT/TX PoE-equipped ports
2 – Dual Media Gigabit Ethernet ports (2- RJ45 10/100/1000BaseT/TX ports with corresponding Small Form-factor Pluggable [SFP] auto-detecting ports)

Optional Interfaces:
065-77MM: 1000BaseSX SFP fiber optic module with LC multimode fiber connectors
Maximum distance: 220 meters with 62.5/125 micron fiber cabling or 550 meters with 50/125 micron fiber cabling
065-77SM: 1000BaseLX SFP fiber optic module with LC singlemode fiber connectors
Maximum distance: 10 km with 9/125 micron fiber cabling

SNMP MANAGEMENT
Console port access via RS-232 cable, Telnet remote access, SNMP agent, and Web browser
Kermit/TFTP software-upgrade capability

LEDs
Per Switch: Power, CPU
Per Port: Link/Activity (separate for SFPs), 10/100/1000 speed for RJ45 ports

PHYSICAL CHARACTERISTICS
Dimensions (W x D x H): 17.4" x 8.3" x 1.73" (442 mm x 210 mm x 44 mm)
Standard 19" rack mounting (hardware included)
Weight: 7.5 lbs (3.4 kg)

SAFETY
FCC Part 15 Class A & CE Mark Approval

Gigabit Ethernet Stackable Access Switch

Signamax Connectivity Systems' new stackable Gigabit Ethernet Access Switch provides the capability to remotely power wireless access points, VoIP telephones, Powered Device (PD) media converters, and other devices that meet the IEEE 802.1af standard. These switches provide non-blocking performance for two 10/100/1000BaseT/TX Dual Media Gigabit Ethernet ports plus 24 10/100BaseT/TX-equipped ports. The 065-7726S switch shares the same SNMP management package as its 065-7726S counterpart. Both ring and star Gigabit backbone network architectures are supported with full automatic failover and extension to every workstation. Enhanced Layer 3 look-ahead routing features and IEEE 802.1p Quality of Service / 802.1Q Tagged VLAN / IP Type of Service support make the Signamax 065-7726S switch the cost-effective choice for creating an infrastructure capable of supporting Voice over IP telephony and wireless access.

Gigabit Ethernet Access Switch

PART NO.	DESCRIPTION
065-7726S	24-Port 10/100T/TX Managed PoE Switch plus 2 Gigabit Dual Media Ports
065-77MM	1000BaseSX SFP Module – LC Multimode
065-77SM	1000BaseLX SFP Module – LC Singlemode (10 km)

WDM and CWDM miniGBIC modules available.

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3af
IEEE 802.3z 1000BaseSX/LX
IEEE 802.1p Priority (Quality of Service [QoS])
IEEE 802.1D/802.1w/802.1s Spanning Tree & Rapid Spanning Tree Protocols
IEEE 802.1Q Tagged VLAN with "Q-in-Q" support
IEEE 802.3x Flow Control
IEEE 802.3ad Link Aggregation
IEEE 802.1x Access Control

PERFORMANCE
Latency: < 4.5 µs (LIFO).
Throughput: 1.48810 million pps (64-byte packets)
Switch Fabric Speed: 48.0 Gbps

ADMINISTRATION CONSOLE
1 – RS-232C DB-9 local console serial port.

PORTS
24 – RJ45 10/100BaseT/TX PoE-equipped ports
2 – Dual Media Gigabit Ethernet ports (2- RJ45 10/100/1000BaseT/TX ports with corresponding Small Form-factor Pluggable [SFP] auto-detecting ports)

Optional Interfaces:
065-77MM: 1000BaseSX SFP fiber optic module with LC multimode fiber connectors
Maximum distance: 220 meters with 62.5/125 micron fiber cabling or 550 meters with 50/125 micron fiber cabling
065-77SM: 1000BaseLX SFP fiber optic module with LC singlemode fiber connectors
Maximum distance: 10 km with 9/125 micron fiber cabling

SNMP MANAGEMENT
Console port access via RS-232 cable, Telnet remote access, SNMP agent, and Web browser
Kermit/TFTP software-upgrade capability

LEDs
Per Switch: Power, CPU
Per Port: Link/Activity (separate for SFPs), 10/100/1000 speed for RJ45 ports

PHYSICAL CHARACTERISTICS
Dimensions (W x D x H): 17.4" x 8.3" x 1.73" (442 mm x 210 mm x 44 mm)
Standard 19" rack mounting (hardware included)
Weight: 7.5 lbs (3.4 kg)

SAFETY
FCC Part 15 Class A & CE Mark Approval

5- and 8-Port 10/100/1000BaseT/TX Desktop Switches

Signamax Connectivity Systems' 10/1001000BaseT/TX Desktop Switches make it easy to increase user capacity and provide Gigabit Ethernet to devices in a small workgroup. Auto-sensing speed, duplex mode, and Auto-MDIX features automatically handle 10 Mbps, 100 Mbps, and 1,000 Mbps users. State-of-the-art switches provide a straightforward upgrade from standard or Fast Ethernet, using your existing investment in hardware, cabling and personnel training. By combining simple installation with compact size, Signamax Gigabit Ethernet desktop switches virtually guarantee high network performance.

5- and 8-Port 10/100/1000BaseT/TX Desktop Switches

PART NO.	DESCRIPTION
065-7905A	5-Port 10/100/1000BaseT/TX Desktop Ethernet Mini Switch
065-7908A	8-Port 10/100/1000BaseT/TX Desktop Ethernet Mini Switch

Model 065-7905A

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3x Flow Control

PORTS
model 065-7905A:
5 – RJ45 10/100/1000BaseT/TX Auto-MDI ports (IEEE 802.3 Type 10BaseT; 802.3u Type 100BaseTX; IEEE Type 1000BaseT)
model 065-7908A:
8 – RJ45 10/100BaseT/TX Auto-MDI ports (IEEE 802.3 Type 10BaseT; 802.3u Type 100BaseTX; IEEE Type 1000BaseT)

PERFORMANCE
Throughput: 1,488,000 pps forwarding rate for 1,000 Mbps
148,800 pps forwarding rate for 100 Mbps
14,880 pps forwarding rate for 10 Mbps
(64-byte packets)
Switch Fabric Speed:
model 065-7905A: 10 Gbps
model 065-7908A: 16 Gbps
Address Table Size:
model 065-7905A: 8K entries
model 065-7908A: 4K entries

PHYSICAL CHARACTERISTICS
Dimensions (W x D x H):
model 065-7905A: 6.7" x 3.9" x 1.14" (171 x 98 x 29 mm)
model 065-7908A: 7.5" x 4.7" x 1.5" (190 x 120 x 38 mm)
Weight:
model 065-7905A: 0.56 lbs (254 g)
model 065-7908A: 0.87 lbs (395 g)
Desktop or wall mounting, via slots in case.

LEDs
Per Switch: Power
Per Port: Link/Activity, 100 Mbps, 1,000 Mbps

SAFETY
Power supply UL & cUL listed

Model 065-7905A
rear panel

16- & 24-Port 10/100/1000 Gigabit Ethernet Switches

Signamax Connectivity Systems' Plug-and-Play Gigabit Ethernet Switches feature 16 or 24 10/100/1000BaseT/TX twisted-pair ports to extend Gigabit Ethernet capability cost-effectively where high bandwidth is needed. These models are equipped with two shared mini-GBIC ports, enabling distance extension with standard 1000BaseSX or 1000BaseLX mini-GBIC modules for distributed networks. Non-blocking switch architecture ensures full wire-speed throughput on all ports simultaneously.

16- & 24-Port 10/100/1000 Gigabit Ethernet Switches

PART NO.	DESCRIPTION
065-7930A	16-Port 10/100/1000BaseT/TX Gigabit Ethernet Switch, 2 Optional SFP Slots for Fiber Connection
065-7940A	24-Port 10/100/1000BaseT/TX Gigabit Ethernet Switch, 2 Optional SFP Slots for Fiber Connection
065-77MM	MiniGBIC module LC Multimode for Gigabit Switches 065-77xx and 065-79xx
065-77SM	MiniGBIC module LC Singlemode for Gigabit Switches 065-77xx and 065-79xx

WDM and CWDM mini GBIC modules available.

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX
IEEE 802.3x Flow Control

PERFORMANCE
Address Table Size:
model 065-7930A: 4K MAC addresses
model 065-7940A: 8K MAC addresses
Latency: < 4.3 µs (FIFO)
Throughput:
10Base: 14,880 pps
100Base: 148,810 pps
1000Base: 1,488,100 pps
(64-byte packets)
Switch Fabric Speed:
model 065-7930A: 32.0 Gbps
model 065-7940A: 48.0 Gbps

LEDs
Per Switch: Power
Per Port: Link/Activity, 1,000 Mbps Speed

PORTS
model 065-7930A:
16 – RJ45 10/100/1000BaseT/TX Auto-MDIX ports (IEEE 802.3 Type 10BaseT; 802.3u Type 100BaseTX; 802.3ab 1000BaseT)
2 – open 1000Base mini-GBIC interface combo ports (shared with ports 15 & 16)
model 065-7940A:
24 – RJ45 10/100/1000BaseT/TX Auto-MDIX ports (IEEE 802.3 Type 10BaseT; 802.3u Type 100BaseTX; 802.3ab 1000BaseT)
2 – open 1000Base mini-GBIC interface combo ports (shared with ports 15 & 16)

PHYSICAL CHARACTERISTICS
Dimensions (W x D x H):
model 065-7930A:
12.76" x 9.09" x 1.74"
(324 mm x 231 mm x 44 mm)
19" rack mount brackets are also included with this switch.
model 065-7940A:
17.3" x 8.25" x 1.73"
(44 mm x 442 mm x 2,093 mm)
Weight: 2.78 kg

EMISSIONS
FCC Class A, CE Mark

WebSmart Gigabit Ethernet Switches

Signamax Connectivity Systems' 8-Port WebSmart™ Gigabit Ethernet Switch features eight 10/100/1000BaseT/TX twisted-pair ports to extend Gigabit Ethernet to your servers and workstation users with high-bandwidth requirements. This switch also includes advanced support for port-based Virtual Local Area Networking (VLAN) and multi-port inter-switch trunking for use in larger-scale networks. WebSmart™ administrative and configuration capabilities provide network administrators with powerful, easy-to-use tools to reduce unnecessary broadcast traffic, flexibly segment networks, and enhance network security—either by a local cable connection or remotely from any convenient location using a standard web browser.

Model 065-7931

WebSmart 10/100/1000 Ethernet Switches

PART NO.	DESCRIPTION
065-7911	8-Port 10/100BaseT/TX WebSmart™ 10/100/1000BaseT/TX Switch
065-7931	Gigabit Switch 16-Port 10/100/1000 TX, WebSmart, 2 Optional SFP slots for Fiber Connection
065-7941	Gigabit Switch 24-Port 10/100/1000 TX, WebSmart, 2 Optional SFP slots for Fiber Connection
065-77MM	MiniGBIC module LC Multimode for Gigabit Switches 065-77xx and 065-79xx
065-77SM	MiniGBIC module LC Singlemode for Gigabit Switches 065-77xx and 065-79xx

WDM and CWDM mini GBIC modules available.

SPECIFICATIONS

065-7911

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3ab 1000BaseT
IEEE 802.3x Flow Control

PORTS
8 – RJ45 10/100/1000BaseT/TX Auto-MDIX ports (IEEE 802.3 Type 10BaseT; 802.3u Type 100BaseTX; 802.3ab 1000BaseT)
1 – RJ45 10/100BaseT/TX local console port

ADMINISTRATIVE CAPABILITY
WebSmart console port access via 10/100BaseT/TX connection or via web browser with assigned IP address; permits manual setting of port speed, port duplexity, Flow Control enablement/disablement, as well as establishment and administration of VLAN and/or trunking.

LEDs
Per Switch: Power
Per Console Port: Link, Activity
Per Port: Link/Activity, 10, 100, and 1,000 Mbps Speed

PERFORMANCE
Latency: < 6.0 µs (FIFO)
Throughput: 1,488,000 pps forwarding rate for 1,000 Mbps
148,800 pps forwarding rate for 100 Mbps
14,880 pps forwarding rate for 10 Mbps (64-byte packets)
Switch Fabric
Speed: 16 Gbps
Address
Table Size: 4K MAC addresses
Packet Buffer Size: 128 Kilobytes

PHYSICAL CHARACTERISTICS
Dimensions (W x D x H): 17.5" x 9.3" x 1.74" (443.6 mm x 235.2 mm x 44 mm)
1U rack mount size
Weight: Approximately 5.73 pounds (2.6 kg)

EMISSIONS
FCC part 15 Class A, CE Mark

Model 065-7911

Model 065-7941

065-7931, 065-7941

STANDARDS COMPLIANCE
IEEE 802.3 10Base-T Ethernet (twisted-pair copper)
IEEE 802.3u 100Base-T Ethernet (twisted-pair copper)
IEEE 802.3ab 1000Base-T Ethernet (twisted-pair copper)
IEEE 802.3z 1000Base-X Ethernet
IEEE 802.3x Flow Control capability
ANSI/IEEE 802.3 Auto-negotiation
IEEE 802.1q VLAN

SUBSCRIBER INTERFACE
16/24 Gigabit Ethernet ports
Auto-negotiation
Auto-MDIX
Backpressure flow control for half duplex
Flow control for full duplex
Port 15,16 or 23, 24 are TP/SFP Fiber auto sense
Connector: 16/24 RJ45 and 2 SFP module

PERFORMANCE
Switching capacity:
32 Gbps forwarding bandwidth for switch, nonblocking switch fabric
Wire Speed Performance:
8K MAC addresses, 272 KB on-chip frame buffer, Jumbo frame support

VLAN
Port-base VLAN
IEEE802.1q tag-base VLAN, 4094 Max

QOS
Supports Layer 4 TCP/UDP Port and ToS Classification
Supports 802.1p QoS with two level priority queue

PORT TRUNK
Port trunking with 8 trunking group
Up to 12 ports for each group

BROADCAST STORM
Broadcast Storm suppression

PORT MIRRORING
All port support port mirroring

HW SPECIFIACTION:
Power Consuption 30W max.
Dimensions (H x W x D): 44 x 442 x 209 mm
Veight: 2.78 kg

Gigabit Management Switch

The 065-7840 is a L2 managed Gigabit switch that supports SNMP, Web UI and CLI management interface. It is equipped with 24 Giga TP ports and 2 of which are dual media ports that accommodate optional 10/100/1000Base-T or SFP modules. In addition, the switch implements the QoS (Quality of Service), Mac Filtering Policy, Port Mirror, VLAN and full L2 protocol. It is suitable for workgroups or WAN edge application.

Gigabit Management Switch

PART NO.	DESCRIPTION
065-7840	Gigabit switch 24 Port 10/100/1000 TX Management Rackmount, 2 Optional SFP slots for Fiber Connection
065-77MM	MiniGBIC module LC Multimode for Gigabit Switches 065-77xx and 065-79xx
065-77SM	MiniGBIC module LC Singlemode for Gigabit Switches 065-77xx and 065-79xx

WDM and CWDM mini GBIC modules available.

SPECIFICATIONS

STANDARDS COMPLIANCE
IEEE 802.3x Flow Control capability
IEEE 802.1q VLAN
IEEE 802.1p

PERFORMANCE
Switching capacity:
24 Gigabit Ethernet ports with non-blocking wise speed performance
8K MAC addresses
400 KB on-chip frame buffer
Supports Jumbo frame support, up to 9K
Broadcast/Multicast Storm Suppression
Port Mirroring

VLAN
Port-base VLAN
IEEE802.1q tag-base VLAN, up to 256 active VLANs
Q-in-Q is an efficient method for enabling Subscriber Aggregation

QOS
Supports Layer 4 TCP/UDP Port and ToS Classification
Supports 802.1p QoS with two level priority queue
Supports priority in a Q-in-Q tag

BANDWIDTH CONTROL
Supports bandwidth rating per port ingress and egress rate limit 1,000 Mbps with 1 Mbps increments

PROTOCOL
LACP
Port trunking with 8 trunking group
Up to 12 ports for each group
GVRP/GARP
802.1q with GVRP/ GARP

MULTICASTINGPPRESSION.ORT.EL PRIORITY QUEUE
Supports IGMP snooping including active and passive mode
STP/RSTP
802.1d/1w/1s STP

NETWORK SECURITY
802.1x access control
Management Access Policy Control (ACL)
Snmpv1, v2c Network Management

HW SPECIFIACTION:
Power Consuption 30W max.
Dimensions (H x W x D): 44 x 442 x 209 mm

Signamax Gigabit POE Management Switch series

Signamax Gigabit switch 065-7820 POE supports 12x 10/100/1000 Mbps Auto-negotiation, Auto-MDIX Ethernet ports and Power over Ethernet to IEEE 802.3af compliant devices. It's fully compliant with the standards of IEEE 802.3/u/x/z/ab/af. It is equipped with 12 Giga TP ports and 2 of which are dual media ports that accommodate optional 10/100/1000Base-T or SFP modules. In addition, the switch implements the QoS (Quality of Service), Mac Filtering Policy, Port Mirror, VLAN and full L2 protocol. The overall network management is enhanced and the network efficiency is also improved to accommodate high bandwidth applications with security.

065-7921POE Gigabit POE Switch supports 12x10/100/1000 Mbps Auto-negotiation, Auto-MDIX Ethernet ports and Power over Ethernet to IEEE 802.3af compliant devices. It's fully compliant with the standards of IEEE 802.3/u/x/z/ab/af. With WebSmart management, the network administrator can logon the switch to monitor, and configure. In addition, 065-7921POE abounds with functions, including Jumbo frame, QoS (Quality of Service), port-based VLAN & Link Aggregation capability via the smart software. The overall network management is enhanced and the network efficiency is also improved to accommodate high bandwidth applications with security

Model 065-7921POE

Model 065-7820POE

Signamax Gigabit POE Management Switch series Standard compliance

PART NO.	DESCRIPTION
065-7820POE	12-port 10/100/1000BaseT, Gigabit Management switch, POE, 2 optional SFP slots for Fiber Connection
065-7921POE	12-port 10/100/1000BaseT, Gigabit Websmart switch, POE, 2 optional SFP slots for Fiber Connection
065-77MM	miniGBIC module LC Multimode for Gigabit Switches 065-77xx and 065-79xx
065-77SM	miniGBIC module LC Singlemode for Gigabit Switches 065-77xx and 065-79xx

WDM and CWDM mini GBIC modules available.

SPECIFICATIONS

APPLICABLE STANDARDS
- IEEE 802.3af PoE Standard
- IEEE 802.3 10Base-T Ethernet (twisted-pair copper)
- IEEE 802.3u 100Base-T Ethernet (twisted-pair copper)
- IEEE 802.3ab 1000Base-T Ethernet (twisted-pair copper)
- IEEE 802.3z 1000Base-X Ethernet
- IEEE 802.3x Flow Control capability
- ANSI/IEEE 802.3 Auto-negotiation
- IEEE 802.1p Priority Tag
- IEEE 802.1q VLAN

SUBSCRIBER INTERFACE
- 12 Gigabit Ethernet ports, Auto-negotiation, Auto-MDIX
- Back pressure flow control for half duplex
- Flow control for full duplex
- Port 11, 12 are TP/SFP Fiber auto sense
- Connector: 12 RJ45 and 2 SFP module

PERFORMANCE
- **Switching capacity:**
- 12 Gigabit Ethernet ports with non-blocking wire speed performance
- 8K MAC addresses, 208 KB on-chip frame buffer, Jumbo frame support

VLAN
- Port-base VLAN, IEEE802.1q tag-base VLAN, 4094 Max

QOS
- Supports Layer 4 TCP/UDP Port and ToS Classification
- Supports 802.1p QoS with two level priority queue

BANDWIDTH CONTROL
- Supports bandwidth rating per port ingress and egress rate limit 1,000 Mbps with 1 Mbps increments

PORTS TRUNK
- Ports trunking with 6 trunking group, up to 6 ports for each group

BROADCAST/MULTICAST STORM
- Broadcast Storm control

PORT MIRRORING
- All port support port mirroring

POE FEATURES
- Supports IEEE 802.3af compliant u Supports Power over Ethernet (PSE) on each Gigabit UTP port
- Full power support for per POE port
- 135W Supported
- Auto detect powered device and consumption levels
- Supports per port power consumption monitoring
- Smart feature for PD on/off, PD detection, power level, PD status and power feeding priority
- Circuit protection to prevent power interference between ports
- Supports per port PoE State setting
- Supports per port power priority setting
- LED indicators for POE ready and POE activity

HW SPECIFICATION:
- Power Requirement 220W or 155W
- Total Power for PoE 200W or 135W
- **Dimensions (H x W x D):** 44 x 442 x 211 mm

Compact Fiber Access Switch

Signamax' Connectivity Systems' Compact Fiber Access Switches provide the right port interface you need for fiber-extended networks. The 065-7111 series of switches allows cost-effective fiber extension to small workgroups and Programmable Logic Controller (PLC) clusters. These switches support enterprise-level network extension to distant buildings in a campus environment, and can also extend process control networks over fiber to production or control machinery equipped with PLCs at Fast Ethernet speeds. These switches, to allow administrative and production networks to coexist on the same fiber link transparently pass tagged VLAN and Quality of Service (QoS) packets used to separate and prioritize sub-networks.

Compact Fiber Access Switch

PART NO.	DESCRIPTION
065-7111SC	Multimode Compact Fiber Access Switch – SC
065-7111ST	Multimode Compact Fiber Access Switch – ST
065-7111LC	Multimode Compact Fiber Access Switch – LC (Special Order)
065-7111MT	Multimode Compact Fiber Access Switch – MTRJ (Special Order)
065-7111VF	Multimode Compact Fiber Access Switch – VF45 (Special Order)
065-7111SM	Singlemode Compact Fiber Access Switch – SC (Special Order)
065-7111SMED	Singlemode Compact Fiber Access Switch – SC (Special Order)
065-7111SMXLD	Singlemode Compact Fiber Access Switch – SC (Special Order)

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX
IEEE 802.3x Flow Control

PORTS
All models:
7 – Fixed 10/100BaseT/TX Auto-MDIX ports, RJ45 connectors; (IEEE 802.3u Type 10BaseT & 100BaseTX)
plus
models 065-7111SC, 065-7111ST, 065-7111LC, 065-7111MT & 065-7111VF:
1 – Fixed 100BaseFX port, SC multimode (model 065-7111SC), ST multimode (model 065-7111ST), LC multimode (model 065- 7111LC), MTRJ multimode (model 065-7111MT), or VF45 multimode (model 065-7111VF) connectors (IEEE 802.3u Type 100BaseFX)
Maximum distance:
2,000 meters with 62.5/125 micron or 50/125 micron multimode fiber cabling
or
models 065-7111SM, 065-7111SMED & 065-7111SMXLD:
1 – Fixed 100BaseFX port, SC singlemode connector. (IEEE 802.3u Type 100BaseFX)
Maximum distance:
model 065-7111SM:
15 kilometers with 9/125 micron or 10/125 micron singlemode fiber cabling
model 065-7111SMED:
40 kilometers with 9/125 micron or 10/125 micron singlemode fiber cabling
model 065-7111SMXLD:
75 kilometers with 9/125 micron or 10/125 micron singlemode fiber cabling

LEDs
Per Switch: Power
Per Port: Link/Activity

PERFORMANCE
Throughput: 148,810 pps at 100 Mbps, 14,800 pps at 10 Mbps (64-byte packets)
Switch Fabric
Speed: 1.6 Gbps
Address
Table Size: 2,048 entries

PHYSICAL CHARACTERISTICS
Dimensions (W x D x D):
10.0" x 5.3" x 1.4"
(254 mm x 135 mm x 35 mm)
Weight: 3.5 lbs (1.6 kg)

EMISSIONS
FCC part 15 Class A,
CE Mark Class A, VCCI Class A

MOUNTING
Desktop or wall mounting

SAFETY
UL 1950

Managed Compact Fiber Access Switch

Signamax Connectivity Systems' Managed Compact Fiber Access Switch provides the capabilities you need for mission-critical fiber-extended networks. The 065-7210 series of switches allows redundant path fiber extension to small workgroups and Programmable Logic Controller (PLC) clusters with automatic failover. These switches support a complete SNMP management and monitoring package to safely extend management capabilities and advanced internetworking features over fiber to workgroups, smaller campus buildings, and production or control machinery equipped with PLCs at Fast Ethernet speeds. Tagged VLAN and Quality of Service (QoS) packets are fully supported by these switches, to allow administrative and production networks to coexist on the same redundant fiber link.

Managed Compact Fiber Access Switches

PART NO.	DESCRIPTION
065-7210SC	Multimode Managed Compact Fiber Access Switch – SC
065-7210ST	Multimode Managed Compact Fiber Access Switch – ST
065-7210LC	Multimode Managed Compact Fiber Access Switch – LC (Special Order)
065-7210MT	Multimode Managed Compact Fiber Access Switch – MTRJ (Special Order)
065-7210VF	Multimode Managed Compact Fiber Access Switch – VF45 (Special Order)
065-7210SM	Singlemode Managed Compact Fiber Access Switch – SC (Special Order)
065-7210SMED	Singlemode Managed Compact Fiber Access Switch – SC (Special Order)
065-7210SMXLD	Singlemode Managed Compact Fiber Access Switch – SC (Special Order)

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3 10BaseT
IEEE 802.3u 100BaseTX
IEEE 802.3u 100BaseFX
IEEE 802.1p Priority
(Classification of Service [CoS])
IEEE 802.1D Spanning Tree
IEEE 802.1Q Tagged VLAN
IEEE 802.3x Flow Control
IEEE 802.3ad Link Aggregation

PORTS
models 065-7210SC, 065-7210ST, 065-7210LC, 065-7210MT & 065-7210VF:
2 – Fixed 100BaseFX port, SC multimode (model 065-7210SC), ST multimode (model 065-7210ST), LC multimode (model 065-7210LC), MTRJ multimode (model 065-7210MT), or VF45 multimode (model 065-7210VF) connectors (IEEE 802.3u Type 100BaseFX)
Maximum distance:
2,000 meters with 62.5/125 micron or 50/125 micron multimode fiber cabling
6 – Fixed 10/100BaseT/TX ports, RJ45 connectors (IEEE 802.3u Type 10BaseT & 100BaseTX)

models 065-7210SM, 065-7210SMED & 065-7210SMXLD:
2 – Fixed 100BaseFX port, SC singlemode connector (IEEE 802.3u Type 100BaseFX)
Maximum distance:
model 065-7210SM:
15 kilometers with 9/125 micron or 10/125 micron singlemode fiber cabling
model 065-7210SMED:
40 kilometers with 9/125 micron or 10/125 micron singlemode fiber cabling
model 065-7210SMXLD:
75 kilometers with 9/125 micron or 10/125 micron singlemode fiber cabling
6 – Fixed 10/100BaseT/TX ports, RJ45 connectors (IEEE 802.3u Type 10BaseT & 100BaseTX)
1 – RS-232C DB-9 local console serial port (Default Parameters: 115,200 bps, 8 data bits, no parity, 1 stop bit)

LEDs
Power, Link/Activity, 100 Mbps, Full Duplex/Collision

PERFORMANCE
Throughput: 148,810 packets per second (pps) at 100 Mbps, 14,800 pps at 10 Mbps (64-byte packets)
Switch Fabric
Speed: 1.6 Gbps
Address
Table Size: 12K MAC addresses

MANAGEMENT
Console port access via RS-232 cable, Telnet remote access, SNMP agent, and Web browser.
Kermit/TFTP software-upgrade capability

PHYSICAL CHARACTERISTICS
Dimensions (W x D x D): 10" x 5.3" x 1.4" (254 mm x 135 mm x 35 mm)
Weight: 3.5 lbs (1.6 kg)

EMISSIONS
FCC part 15 Class B
CE Mark Class B

MOUNTING
Desktop or wall mounting

SAFETY
UL 1950

8-Port 100BaseFX Fiber Switch

Signamax Connectivity Systems' 8-Port 100BaseFX Fiber Switch is a plug-and-play Fast Ethernet switch that is the ultimate in easy 100Base FX fiber connection for simple multimode fiber applications. Standard 1U high non-blocking switch chassis supports eight multimode SC or eight multimode ST ports; each is equipped with a DIP switch for full or half-duplex mode selection.

8-Port 100BaseFX Fiber Switch

PART NO.	DESCRIPTION
065-7310FSC	8-Port 100BaseFX Fiber Switch – SC
065-7310FST	8-Port 100BaseFX Fiber Switch – ST

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3u 100BaseFX
IEEE 802.3x Flow Control

PORTS
model 065-7310FSC:
8 – Fixed 100BaseFX ports, SC multimode
model 065-7310FST:
8 – Fixed 100BaseFX ports, ST multimode
Maximum distance:
2,000 meters with 62.5/125 micron or 50/125 micron multimode fiber cabling

LEDs
Per Switch: Power
Per Port: Link/Activity, 100 Mbps detected, Full Duplex/ Collision

PERFORMANCE
Throughput: 148,810 packets per second (pps) (64-byte packets)
Switch Fabric
Speed: 1.6 Gbps
Address
Table Size: 2,048 entries

PHYSICAL CHARACTERISTICS
Dimensions (W x D x D): 17.3" x 8.1" x 1.75" (440 mm x 205 mm x 45 mm)
Weight: 6.2 lbs (2.8 kg)

EMISSIONS
FCC part 15 Class A,
CE Mark Class A, VCCI Class A

MOUNTING
Desktop or wall mounting

24-Port 100FX Ethernet Fiber Switch

Signamax Connectivity Systems' model 065-7640AFSC and 065-7640AFSM Fast Ethernet Fiber Switches connect workstations and servers using fiber optic cable where Gigabit Ethernet connections are not desired. These non-blocking 24-port 100BaseFX Fast Ethernet switches have SNMP, Web-browser, local terminal connection and Telnet remote terminal management capabilities included, to build a fiber-based enterprise-level network at Fast Ethernet speeds. Model 065-7640AFSC provides 24 100BaseFX multimode fiber optic ports, typically used in Local Are Network (LAN) applications. Model 065-7640AFSM provides 24 100BaseFX singlemode fiber ports, for use in carrier network applications or in LANs where longer distances need to be reached.

Fast Ethernet Fiber Switch

PART NO.	DESCRIPTION
065-7640AFSC	Fast Ethernet Fiber Switch – Multimode, SC connectors – AC Power
065-7640AFSCDC	Fast Ethernet Fiber Switch – Multimode, SC connectors – 48 V DC Power
065-7640AFSM	Fast Ethernet Fiber Switch – Singlemode, SC connectors – AC Power
065-7640AFSMDC	Fast Ethernet Fiber Switch – Singlemode, SC connectors – 48 V DC Power

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3u 100BaseFX
IEEE 802.1p Priority (CoS)
IEEE 802.1D Spanning Tree
IEEE 802.1Q VLANs
IEEE 802.3x Flow Control
IEEE 802.3ad Link Aggregation

PORTS
model 065-7640AFSC:
24 – 100BaseFX ports, SC multimode connectors; span up to 2,000 meters (IEEE 802.3u 100BaseFX)
1 – RS-232C DB-9 local console serial port (Default Parameters: 115,200 bps, 8 data bits, no parity, 1 stop bit)
model 065-7640AFSM:
24 – 100BaseFX ports, SC singlemode connectors; span up to 75 kilometers (IEEE 802.3u 100BaseFX)
1 – RS-232C DB-9 local console serial port (Default Parameters: 115,200 bps, 8 data bits, no parity, 1 stop bit)

MANAGEMENT
Console port access via RS-232 cable, Telnet remote access, SNMP agent, and Web browser. Kermit/TFTP software-upgrade capability

PERFORMANCE
Latency: < 4.5 µs (LIFO)
Throughput: 1.48810 million pps (64-byte packets)
Switch Fabric
Speed: 12.0 Gbps

LEDs
Per Unit: Power status
Per Port: LNK/ACT, FDX (2 LEDs) for each 100BASE-FX port

PHYSICAL CHARACTERISTICS
Dimensions (W x D x D): 17.4" x 16.4" x 1.8"
(440 mm x 415 mm x 45 mm)
Standard 19-in rack mounting (hardware included)
Weight: 7.5 lbs (3.4 kg)

POWER
AC Input: 100 – 260VAC, 47 – 63 Hz internal universal power supply
or
DC Input: 48VDC, LUG Type – 2 pin connector block; internal DC power supply, Specification applies to each of two included redundant, load-sharing, hot-swappable power supplies.

SAFETY
UL 1950

24-Port Gigabit Ethernet Fiber Switch

Signamax Connectivity Systems' model 065-7732AFSC Multimode and 065-7732AFSM Singlemode Fiber Gigabit Ethernet Access Switches are the most cost-effective way to extend fiber to the desktop from a Gigabit Ethernet fiber backbone. Model 065-7732FSC provides two 1000BaseSX multimode fiber optic ports plus 24 100BaseFX multimode fiber optic ports, typically used in Local Area Network (LAN) applications. Model 065-7732FSM provides two 1000BaseLX singlemode fiber optic ports plus 24 100BaseFX singlemode fiber ports, for use in applications where greater distances need to be reached, or in carrier networks where singlemode fiber is the distribution media of choice. SNMP, Web-browser, local terminal connection and Telnet remote terminal management capabilities are included.

Fiber Gigabit Ethernet Access Switch

PART NO.	DESCRIPTION
065-7732AFSC	Multimode Fiber Gigabit Ethernet Access Switch – AC Power
065-7732AFSCDC	Multimode Fiber Gigabit Ethernet Access Switch – 48 V DC Power
065-7732AFSM	Multimode Fiber Gigabit Ethernet Access Switch – AC Power
065-7732AFSMDC	Multimode Fiber Gigabit Ethernet Access Switch – 48 V DC Power

SPECIFICATIONS

APPLICABLE STANDARDS
IEEE 802.3u 100BaseFX
IEEE 802.3z 1000BaseSX
IEEE 802.3z 1000BaseLX
IEEE 802.1p Priority (CoS)
IEEE 802.1D Spanning Tree
IEEE 802.1Q VLANs
IEEE 802.3x Flow Control
IEEE 802.3ad Link Aggregation

PORTS
model 065-7732AFSC:
24 – Fixed 100BaseFX ports, SC multimode connectors (IEEE 802.3u 100BaseFX). Maximum distance: 2,000 meters with 62.5/125 micron or 50/125 micron multimode fiber cabling
2 – Fixed 1000BaseSX Gigabit Ethernet ports, SC multimode connectors (IEEE 802.3z 1000BaseSX). Maximum distance: 220 meters with 62.5/125 micron multimode fiber cabling or 550 meters with 50/125 micron multimode fiber cabling.
1 – RS-232C DB-9 local console serial port (Default Parameters: 115,200 bps, 8 data bits, no parity, 1 stop bit)

model 065-7732AFSM:
24 – Fixed 100BaseFX ports, SC singlemode connectors (IEEE 802.3u 100BaseFX). Maximum distance: 75 kilometers with 9/125 micron singlemode fiber cabling.
2 – Fixed 1000BaseLX Gigabit Ethernet ports, SC singlemode connectors (IEEE 802.3z 100BaseLX). Maximum distance: 20 kilometers with 9/125 micron singlemode fiber cabling.
1 – RS-232C DB-9 local console serial port (Default Parameters: 115,200 bps, 8 data bits, no parity, 1 stop bit)

MANAGEMENT
Console port access via RS-232 cable, Telnet remote access, SNMP agent and Web browser
Kermit/TFTP software-upgrade capability

PERFORMANCE
Latency: < 4.5 µs (LIFO)
Throughput: 1.48810 million pps (64-byte packets)
Switch Fabric Speed: 12.0 Gbps

LEDs
Per Unit: Power status
Per Port: LNK/ACT, FDX (2 LEDs) for each 100BASE-FX port

PHYSICAL CHARACTERISTICS
Dimensions (W x D x D):
17.4" x 16.4" x 1.8"
(440 mm x 415 mm x 45 mm)
Standard 19-in rack mounting (hardware included)
Weight: 7.5 lbs (3.4 kg)

POWER
AC Input: 100 – 260VAC, 47 – 63 Hz internal universal power supply
or
DC Input: 48VDC, LUG Type—2 pin connector block; internal DC power supply
Specification applies to each of two included redundant, load-sharing, hot-swappable power supplies.

SAFETY
UL 1950

4-/7-Port Broadband Access Router

The Signamax 065-1506A Broadband Access Router is an intelligent solution for sharing Cable Modem or DSL services between home computers, small office computers, or branch office installations. The built-in 4-port switch facilitates file sharing at either 10 Mbps or 100 Mbps, automatically determining the fastest possible connection speed and duplex mode. It also provides print server capabilities as well, to allow printer sharing between users without requiring a particular computer to be left on at all times. The 065-1506A Broadband Router incorporates a hardware-based firewall, securing your PCs from hackers breaking into your files and possibly using your PCs for illegal purposes.

4-/ 7-Port Broadband Access Router

PART NO.	DESCRIPTION
065-1506A	Broadband Access Router

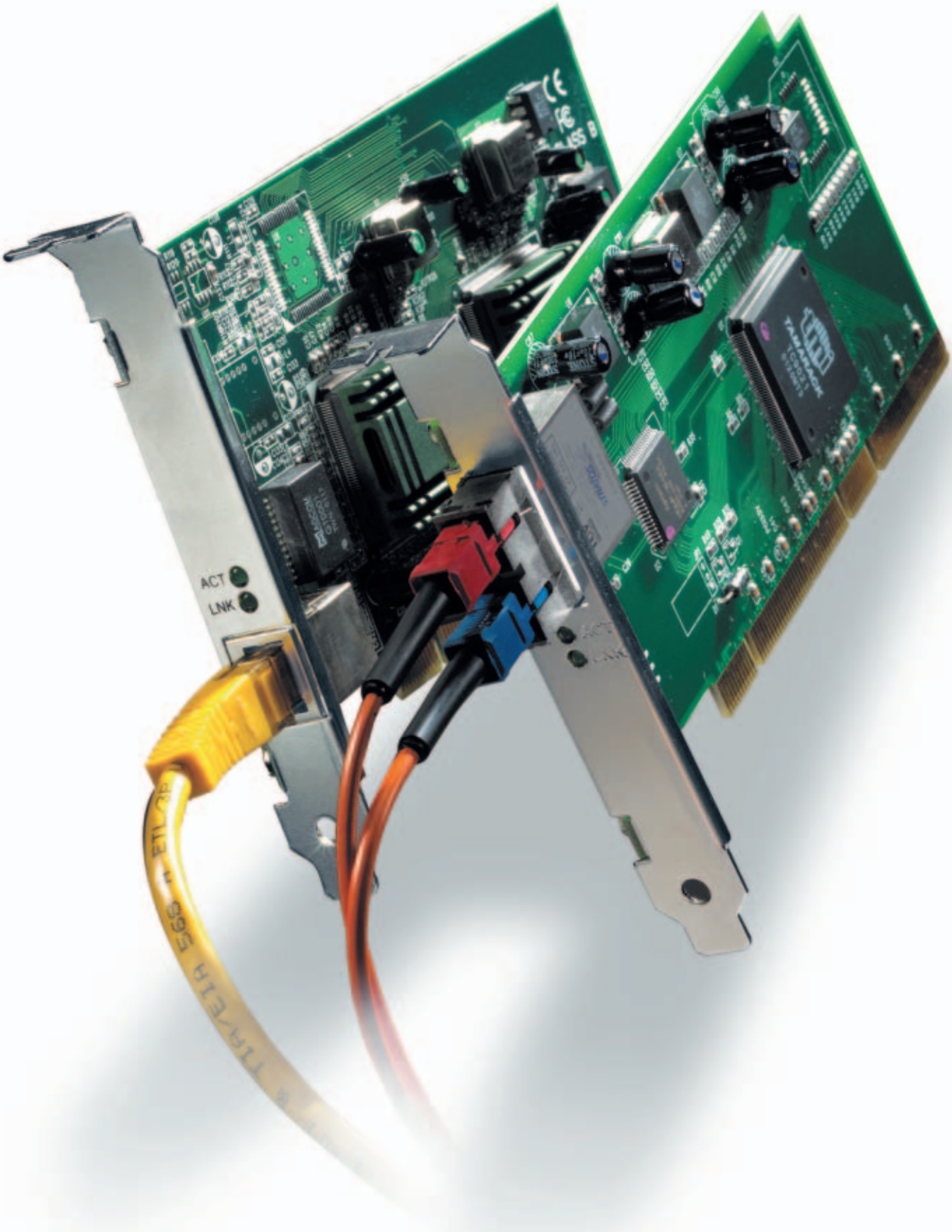
- **Allows multiple PCs to share one Internet connection**
- **Built-in firewall to protect your computers**
- **Integrated 4-port 10/100BaseT/TX auto-sensing Fast Ethernet LAN switch**
- **WAN Port**
- **Built-in print server**
- **Web browser-based configuration and management**
- **DHCP Server**
- **Dynamic DNS**
- **Virtual Server**
- **Port Filter**

SPECIFICATIONS

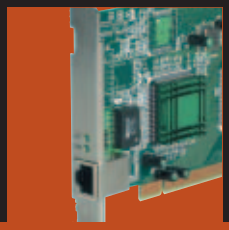
PORTS:
4x RJ45 10/100BaseT/TX Local Area Network (LAN) ports
1x RJ45 10/100BaseT/TX Wide Area Network (WAN) port
1x DB-25 female parallel printer port
1x Serial Port

SUPPORTED PLATFORMS:
Win95/98/NT/2000XP; Unix LPR
Web-based configuration and management
Power, 10/100, System Status, LAN Link/Activity, WAN Link/Activity
External AC Power Supply
Desktop and wall mounting
Power supply UL & cUL listed
FCC Part 15 Class B, CE Mark B, VCCI-B

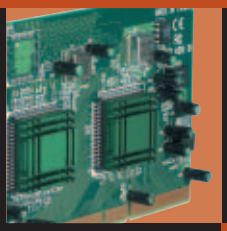
NETWORK CONNECTIVITY SYSTEMS

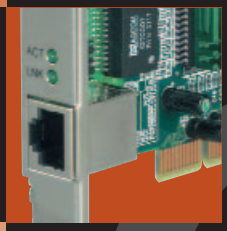


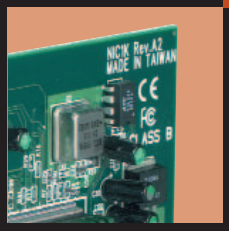
SIGNAMAX™
CONNECTIVITY SYSTEMS



Network Interface Cards







C

Gigabit Ethernet PCI Adapter Cards

Fast Ethernet PCI Adapter Cards

Gigabit Ethernet PCI Adapter Cards

Signamax Connectivity Systems' Gigabit network adapter cards are used wherever it is necessary to provide Gigabit Ethernet capability directly into a server or workstation. Model 098-2000SX and 098-2000T utilize the new high-speed 64/32-bit PCI Bus Mastering architecture and support IEEE 802.1p Quality of Service (QoS) and 802.1Q VLAN Tagging standards for complete network optimization. Model 098-2000SX supports the IEEE 802.3z 1000BaseSX specification over either 50/125 micron or 62.5/125 micron multimode fiber optic cabling via it's SC fiber connector. Model 098-2000T and 098-2000TR support the IEEE 802.3ab 1000BaseT specification in a Category 5E or better cabling system, using a standard RJ45 jack. These cards also support 10BaseT and 100BaseTX transmission, allowing their use in networks evolving to Gigabit Ethernet.

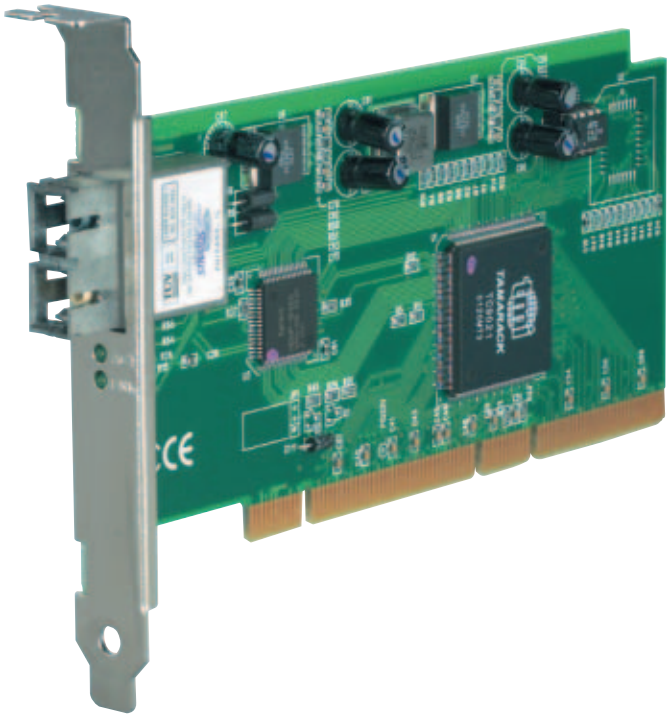
SPECIFICATIONS

STANDARDS COMPLIANCE
IEEE 802.3z 1000BaseSX (model 065-2000SX)
IEEE 802.3ab 1000BaseT (model 065-2000T)
IEEE 802.3u 100BaseTX (model 065-2000T)
IEEE 802.3 10BaseT (model 065-2000T)
IEEE 802.3x Flow Control
IEEE 802.1p Quality of Service
(models 098-2000SX & 098-2000T)
IEEE 802.1Q Tagged VLAN
(model 098-2000SX & 098-2000T)
PCI Specifications Revision 2.2

CONNECTOR
model 098-2000SX: SC multimode 1000BaseSX. Requires either 62.5/125 micron or 50/125 micron multimode fiber optic cable.
model 098-2000T & 098-2000TR: RJ45 10/100/1000BaseT/TX with Auto MDI/MDI-X Determination. Requires Category 5e cabling or better.

ARCHITECTURE
Auto I/O Address Configuration
Auto Full & Half Duplex modes
model 098-2000SX & 098-2000T:
64/32-bit PCI Bus Mastering with Auto PCI
model 098-2000TR:
32-bit PCI Bus Mastering

DIAGNOSTIC LEDS
model 098-2000SX & 098-2000T:
ACT: Network detected + data transmitted/received
LNK: Connection detected
model 098-2000TR:
ACT: Network detected + data transmitted/received
10: Connection detected at 10 Mbps
100: Connection detected at 100 Mbps
1000: Connection detected at 1,000 Mbps



Model 098-2000TR

Gigabit Ethernet PCI Adapter Cards

PART NO.	DESCRIPTION
098-2000SX	1000BaseSX 64/32-Bit PCI Network Adapter Card – SC Multimode
098-2000T	10/100/1000BaseT/TX 64/32-Bit PCI Network Adapter Card

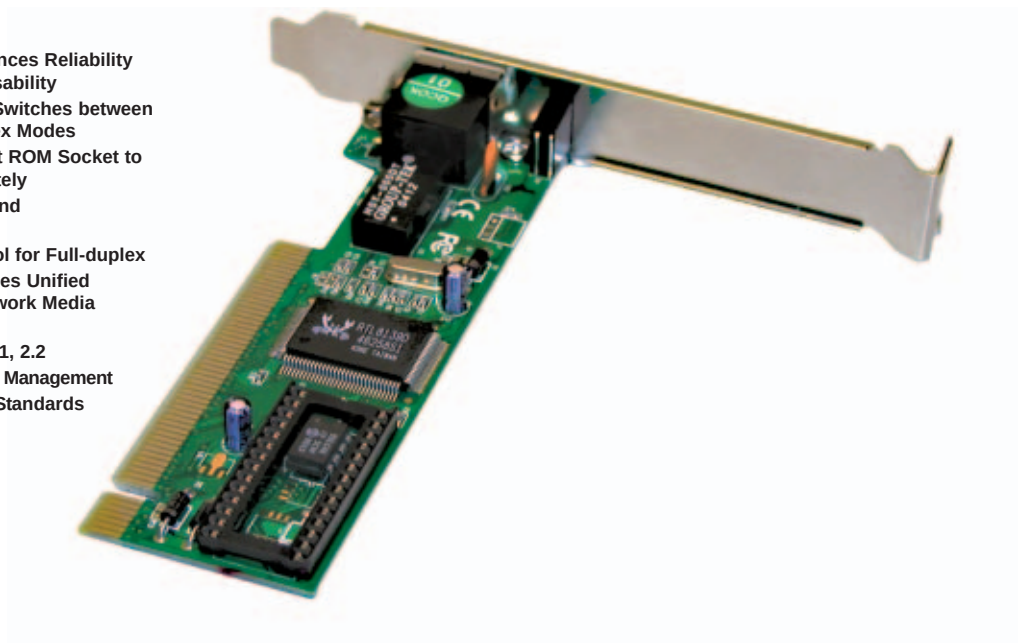
10/100 Mbps Fast Ethernet PCI Adapter

098-1111, the most cost-effective solution for end users, is equipped with Auto-negotiation function. Auto-negotiation function has become the basic requirement of network adapters. It automatically supports data transmission speeds ranging from 10 Mbps to 200 Mbps. This function smoothly and automatically switches drivers between 10 Mbps and 100 Mbps, Full-or Half-duplex, LAN connections.

Furthermore, an optional Boot ROM socket is provided to allow administrators to boot diskless computers from remote servers. This function is most frequently used for schools, libraries or other public buildings. 098-1111 runs in 32-bit PCI bus master mode. It is compliant with industrial standards and its drivers support all major operating systems.

FEATURES

- **Sturdy Single Chip Design Enhances Reliability and Ensures Robust Running Usability**
- **Auto-negotiation Automatically Switches between 10/100 Mbps and Full-/Half-duplex Modes**
- **Equipped with one optional Boot ROM Socket to Boot Diskless Computers Remotely**
- **Fully Comply with IEEE 802.3u and IEEE 802.3 Standards**
- **Support IEEE 802.3x Flow-control for Full-duplex**
- **Shielded RJ45 Connector Provides Unified 100BASE-TX and 10BASE-T Network Media Interface**
- **Comply with PCI specification 2.1, 2.2**
- **Support ACPI, and PCI-Bus Power Management**
- **Compliant to PC99 and PC2001 Standards**



SPECIFICATIONS

STANDARDS
IEEE 802.3u: 100BASE-TX
IEEE 802.3: 10BASE-T

BUS TYPE
PCI specification revision 2.1, 2.2

NETWORK INTERFACE
One shielded RJ45 phone-type jack

NETWORK MODES SUPPORTED
10BASE-T: CAT 3, 4, and 5 TP
100BASE-TX: CAT 5 TP cable
Full-duplex available in both modes

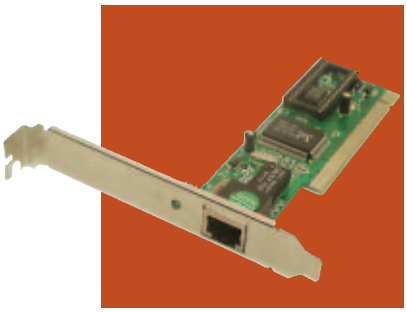
LEDs
LINK (Green)
TX/RX (Green)

BOOT ROM (OPTIONAL)
64K Bytes with optional on-board Boot ROM socket

ENVIRONMENT
Operating Temperature: 0° – 55°C (32° – 131°F)
Storage Temperature: -20° – 70°C (-4° – 158°F)
Humidity: 10-90% Non-condensing

DIMENSIONS
4.72 x 1.65 inches (120 x 42 mm)

SOFTWARE SUPPORT
Windows 95/98/ME/ NT/2000/XP
Netware 3.x, 4.x, 5.x
Client 32
NDIS 2.0 Drivers
Packet Driver
Linux
SCO UNIX
Free BSD
DOS ODI



10/100 Mbps Fast Ethernet PCI Adapter

PART NO.	DESCRIPTION
098-1111	10/100 Mbps Fast Ethernet PCI adapter, RJ45 STP

NETWORK CONNECTIVITY SYSTEMS

SIGNAMAX™
CONNECTIVITY SYSTEMS

KVM Switches

2-Port Compact KVM Switch

2- and 4-Port Multimedia KVM Switches

8- and 16-Port Cascadable KVM Switches

KVM Hydra Cables

2-Port Compact KVM Switch

Signamax Connectivity Systems' CommandView is the perfect solution for convenient control of two computers from just one keyboard, monitor, and mouse. Quick, simple connection and you're in total control. No software required; completely plug & play. Select any computer with push-button ease. Auto Scan at user selectable intervals. Dedicated keyboard & mouse emulation. Intelligent mode operation ensures each keyboard's LED status & typematic rates are automatically restored.

Model 098-8025 rear panel

2-Port Compact KVM Switch

PART NO.	DESCRIPTION
098-8025	2-Port KVM Switch – PS/2 Only

SPECIFICATIONS

SELECTION METHOD
Push-button or keyboard hot keys.
Automatic scanning between CPUs.
Audio alert to confirm switching.

CONNECTIONS
CONSOLE – HDB15 female/mini, DIN6 female/mini DIN6 female
PC PORTS – HDB15 male/mini, DIN6 female/mini, DIN6 female DB9 female

MOUSE SUPPORT
PS/2 Keyboard, PS/2 Mouse, supports MS IntelliMouse

2- and 4-Port Multimedia KVM Switches

Signamax Connectivity Systems' CommandView KVM switch is a high performance yet low cost console (Keyboard, Mouse, Monitor, Speaker and Microphone) sharing switch for IBM compatible PCs. You can control any 2 or 4 PS/2 style PCs with only one set of Keyboard, Mouse, Monitor and Headset console devices.

Designed with Plug and Play function and fully emulation of keyboard and mouse response including Wrap (Echo) mode, more innovative features added to help you work on different platforms and switch smoothly among them. Now, you can share your console devices with Notebook computer and desktop PC.

It is compact, easy to install, and doesn't need any external power adapter. Moreover, NO extra software is required to install, and hence there are no software incompatibility problems to worry about.

Model 098-8140

2- and 4-Port KVM Switches

PART NO.	DESCRIPTION
098-8120	Multimedia 2 port KVM Switch, Desktop, with Mic. & Audio
098-8140	Multimedia 4 port KVM Switch, Desktop, with Mic. & Audio

FEATURES

- **Access 2 or 4 computers with one set of keyboard, mouse, monitor and headset.**
- **An innovated Broadcast mode will turn your keyboard strokes and mouse movements broadcast to all computers at the same time. That is useful when you operate the same activities on all identical computers, such as configuration, OS installation.**
- **A built-in 3.9V voltage detector will stop activity when cabling is too long or the load of console keyboard and mouse is too heavy.**
- **Supports PC-AT and PS/2 keyboard (AT requires an AT-PS/2 adapter).**
- **Supports Microsoft IntelliMouse Explorer (5 key+Wheel), Microsoft IntelliMouse (3 Key+Wheel), Logitech MouseMan+, FirstMouse+, and IBM Scroll Point Mouse.**
- **Designed for Plug-and-Play operation.**
- **Full emulation of Keyboard and Mouse for all inactive channels; Now, you can boot up PC even without keyboard and mouse installed on the switch.**
- **The status of keyboard's Caps Lock, Num Lock, Scroll Lock and typematic rate are automatically saved and restored when switching among computers.**
- **Supports simple cascade up to 4 stages by setting different Hot-key on each stage.**
- **Supports resolution from VGA, SVGA and up to (2,048 x 1,536 @ 75 Hz).**
- **VGA amplifier bandwidth is 300 Mhz, Av = 1 for a crystal clear video output.**
- **Supports VESA DDC1/2B standard.**
- **3 kinds of PC selection method: by keyboard number keys, arrow-keys and push button.**
- **A wheel mouse can be set to different mode (with wheel or without wheel) for different PC OS.**
- **The moving speed of mouse can be set to Fast or Slow.**
- **Hardware reset can be activated by Hot-key command or press push button for more than 5 seconds.**
- **Two Scan modes: Automatically switches through powered-on computers or stop on each computer.**
- **Total 8 time intervals can be set for Scan mode: 4, 5, 10, 15, 20, 25, 40, 60 seconds.**
- **Keyboard's LED will flash to indicate the scan time interval setting by binary form in Hot-key mode.**
- **Keyboard and mouse activity can be Locked and Unlock.**
- **Audio I/O can be locked to particular channel.**
- **Built-in Keep-Alive feature will allow Keyboard and Mouse remove and attach again.**
- **A sophisticated Hot-key command set will help user to extend the usage of KVM switch without power-down to change console devices.**
- **Uses Combo KVM+Audio cable for easy installation and also prevent from cable tangling, cross-plugging.**
- **Small size and easy to install and operate.**
- **No software required.**
- **No external power required. An optional power jack reserved for long distance cabling**

8- and 16-Port Cascadable KVM Switches

Signamax Connectivity Systems' CommandView offers on-screen control in a full-featured, high performance KVM Switch. The on-screen display feature makes it easy to configure and control up to 128 computers from just one standard monitor, keyboard and mouse. You can name each computer system, making it easy to know which particular computer is currently under your control.

Expands to 8 banks of 8/16 CPUs each, using the included daisy chain cable; no CPU ports are lost to expansion. Individual port processors for flawless CPU booting. Automatically scan each computer at user selectable intervals. Dedicated keyboard and mouse emulation. Intellimouse support plus PS/2 mouse conversion makes CommandView fully compatible with both PS/2 and AT style computers.

Model 098-8180 rear panel

Model 098-8280 rear panel

Model 098-82160 rear panel

Model 098-8180

Model 098-8280

Model 098-82160

8- and 16-Port Cascadable KVM Switches

PART NO.	DESCRIPTION
098-8180	8-port KVM compact desktop switch with OSD, IR support
098-8280	8-port KVM Switch Cascadable Rackmount 1U with OSD support
098-8280USB	8-port KVM Switch Cascadable Rackmount 1U with OSD, USB supported
098-82160	16-port KVM Switch Cascadable Rackmount 1U with OSD support

SPECIAL FEATURES

- **Electronic Switching for Greater Reliability and Durability.**
- **Designed for Plug-and-Play operation.**
- **Broadcast, LockUp/UnLock, Move Mouse faster/slower, Change Hot-key, Set.**
- **Mouse type, Mute buzzer, Quick channel switch by arrow keys and more.**
- **Full emulation of Keyboard and Mouse for all inactive channels**
- **Kinds Hot-key 1. Caps Lock, 2. Num Lock, 3. Scroll Lock and 4. Ctrl+Alt+Shift.**
- **Kinds of PC selection method via Hotkey (by keyboard number keys or arrow-keys), Push Button switch.**
- **Supports Microsoft IntelliMouse Explorer(5key+Wheel), Microsoft IntelliMouse(3Key+ Wheel),Logitech MouseMan+, FirstMouse+, and IBM Scroll Point Mouse.**
- **Built-in Keep-Alive feature will allow Keyboard and Mouse remove and attach again.**
- **Keyboard and mouse activity can be Locked and Unlock.**
- **Cascadable up to 8 levels.**
- **OnScreenDisplay funciton implemented.**
- **19" Rackmountable.**
- **Size (WxDxH): 440 x 153 x 43 mm.**

KVM Hydra Cables

Tangle-proof, single-cable design combines monitor, keyboard and mouse cables into a single, flexible bundle.

Available in two types and in a variety of lengths for connection between CommandView KVM switches and your computers, and also as an extension between your monitor, keyboard, and mouse to the CommandView KVM switch.

KVM Hydra cables for 098-8025, 098-8040, 60, 80

PART NO.	DESCRIPTION
C-65T-6B	6’ HD15M-F, (2) DIN6M-F, from Monitor, PS/2 Keyboard, PS/2 Mouse to KVM Switch
C-65T-10B	10’ HD15M-F, (2) DIN6M-F, from Monitor, PS/2 Keyboard, PS/2 Mouse to KVM Switch
C-69T-6B	6’ HD15M-F, (2) DIN6M-M, Monitor, PS/2 Keyboard, PS/2 Mouse ports to CPU
C-69T-10B	10’ HD15M-F, (2) DIN6M-M, Monitor, PS/2 Keyboard, PS/2 Mouse ports to CPU
C-69T-20B	20’ HD15M-F, (2) DIN6M-M, Monitor, PS/2 Keyboard, PS/2 Mouse ports to CPU
C-69T-30B	30’ HD15M-F, (2) DIN6M-M, Monitor, PS/2 Keyboard, PS/2 Mouse ports to CPU

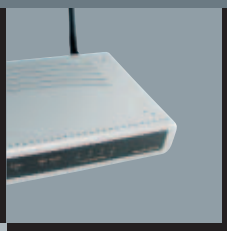
KVM cables for Multimedia KVM Switches

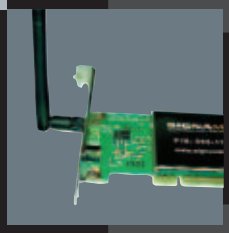
PART NO.	DESCRIPTION
098-C015	KVM cable for 1.5 m, 2x PS/2 M/M + video M/F + 2x stereo
098-C018	KVM cable for 1.8 m, 2x PS/2 M/M + video M/F + 2x stereo
098-C030	KVM cable for 3.0 m, 2x PS/2 M/M + video M/F + 2x stereo
098-C050	KVM cable for 5.0 m, 2x PS/2 M/M + video M/F + 2x stereo
098-C100	KVM cable for 10.0 m, 2x PS/2 M/M + video M/F + 2x stereo

NETWORK CONNECTIVITY SYSTEMS

SIGNAMAX
CONNECTIVITY SYSTEMS

Wireless LAN





- Wireless Access Point
- Wireless Broadband Router
  54 Mbps 802.11g
- Wireless Broadband Router
  108 Mbps 802.11g+
- Wireless ADSL Modem/Router
  54 Mbps 802.11g
- Wireless 802.11g+ 54/108 PCI Card
- Wireless 802.11g 54 PCI Card
- Wireless accessories
- Antennas for WiFi

5 GHz Wireless units, antennas and accessories also available. For more information please contact your Signamax distributor.

54/108 Mbps Wireless External Antenna Access Point

Signamax 065-1785 is the ideal solution for any network administrator who needs to expand the capacity of the wireless network. This is especially applicable to wireless networks in high traffic areas such as airports, coffee shops, shopping centers, sporting venues, and university campus deployments. At transfer rates of up to 54 Mbps and 108 Mbps turbo mode in the 2.4 GHz frequency range, users connected to the 065-1785 will enjoy faster downloads and truly instant email communication.

In addition to bridging 802.11b/g wireless networks, the 065-1785 can bridge to wired networks with its integrated 10/100 Mbps Ethernet port.

For more secure communication, the 065-1785 supports the encryption settings up to 152-bit WEP, and advanced security of WPA and AES. With its web-based configuration the Access Point is easy to install, alter or activate advanced setting, or update with the latest firmware.

FEATURES

- **Fully Compliant with IEEE 802.11b and 802.11g Standard High-Speed Data Rate**
- **High-speed Wireless Connection Up to 108 Mbps Data Rate**
- **Supports 64/128/152 bit WEP and WPA Encryption for Advanced Transfer Security**
- **Easy Installation, Management, and Configuration Reset**
- **Act as Repeater and AP at the Same Time via WDS**
- **Support IP Sharing to Allow More than One Device ON-Line Simultaneously**
- **Built-in Firewall Provides Additional Security**

54/108 Mbps Wireless External Antenna Access Point

PART NO.	DESCRIPTION
065-1785	54/108 Mbps wireless Access Point with external antenna connector / Atheros chipset

SPECIFICATIONS

STANDARDS
IEEE 802.11b, IEEE 802.11g, IEEE 802.3, IEEE 802.3u, IEEE 802.3x
Modulation Types
802.11b: DQPSK, DBPSK and CCK
802.11g: BPSK, QPSK, 16QAM, 64QAM, OFDM
Operating Frequency: 24.00 – 24.97 GHz ISM band
Operating Channels: 11 for N. America, 14 Japan, 13 Europe (ETSI), 2 Spain, 4 France

DATA RATE
802.11g: 108, 54, 48, 36, 24, 18, 12, 9 and 6 Mbps
802.11b: 11, 5.5, 2, and 1 Mbps
Media Access Protocol: CSMA/CA with ACK
Receiver Sensitivity:
802.11b: Typical -83 dBm for 11 Mbps @ 8% PER (Packet Error Rate)
Typical -89 dBm for 2 Mbps @ 8% PER (Packet Error Rate)
802.11g: Typical Sensitivity at Which Frame (1,000-byte PDUs) Error Rate = 10%
-87 dBm at 6 Mbps; -86 dBm at 9 Mbps;
-85 dBm at 12 Mbps; -83 dBm at 18 Mbps;
-80 dBm at 24 Mbps; -76 dBm at 36 Mbps;
-71 dBm at 48 Mbps; -66 dBm at 54 Mbps
Transmitter Output Power
802.11b: Typical 18 dBm at 11, 5.5, 2 and 1 Mbps
802.11g: Typical RF Output Power at each Data Rate
+14 – 15 dBm at 54 Mbps and 108 Mbps;
+14 – 16 dBm at 48 Mbps;
+16 – 18 dBm at 36, 24, 18, 12, 9, and 6 Mbps

ANTENNA
Dipole antennas with 2 dBi gain for 2.4 GHz
PIFA antennas with 2 dBi gain for 2.4 GHs – TBD

INTERFACE
Power Jack, Factory Reset Button, 10/100M Base-T (UTP), Wireless Dipole Antenna
Operating Voltage: 5VDC +/- 10%
Power Consumption: max. 6W (TBD)

LEDs
Power LED, 10/100M LED, Wireless LED

TRANSMIT POWER CONTROL
Control TX power level from full, 50%, 25%, 12.5%, and min.
Radio control: Radio on/off supported
Auto Channel selection: Scan channel and find a clear channel

DFS/TPC
Dynamic Frequency Selection and Transmit Power Control

SECURITY
64/128/152 bit WEP and WPA Encryption

AUTHENTICATION TYPE
Open System Authentication, Shared Key Authentication or both enabled

DIMENSIONS (L x W x H)
5.49" x 4.5" x 1.16" (139.5 x 114.5 x 29.5 mm)

54/108 Mbps Wireless Broadband Router

Signamax 065-1786 is an IEEE 802.11g compliant wireless router with a built in four-port fast Ethernet switch. It brings the latest wireless technology with high speed up to 54 Mbps and 108 Mbps turbo mode and is backwards compatible with all the existing 802.11b products. This high-performance IEEE 802.11g standards-based router connects all of your PC's equipped with wireless PC cards, while an integrated 4-port fast Ethernet switch connects your devices that need Ethernet wiring. It's the easiest way to share and extend your high-speed DSL/cable modem Internet connection, either with or without wires.

54/108 Mbps Wireless Broadband Router

PART NO.	DESCRIPTION
065-1786	54/108 Mbps wireless Router with 4-port switch, external antenna

SPECIFICATIONS

IEEE 802.11G SECTION

Protocols
Static & Dynamic Routing with TCP/IP, NAT, PPPoE, DHCP (Client & server); HTTP, UDP, PAP, CHAP, RIP1, DDNS

Firewall/Alerts
NAT, Stateful Packet Inspection (SPI), DoS Attack Detection/Logging, Dropped Packet Log, Security Event Log, E-mail Alerts of Internet Activity Logs.

VPN Pass Through: PPTP, IPSec, L2TP

Management: Web-based Management, Remote Management

Wireless Data Rate: Complied with IEEE 802.11b/11g, support rate: 1 – 54 Mbps

WEP: 64 Bit, 128 Bit

Frequency Band: 2.4 – 2.4835 GHz

Modulation Type: Direct Sequence Spread Spectrum (DSSS)

RF Output Power: 64 QAM: 14 dBm/16 QAM: 16 dBm/QPSK: 17 dBm/BPSK: 17 dBm/DBPSK, DQPSK, CCK: 17 dBm

FREQUENCY BAND:
2.4 GHz (11g & b) ISM Band/USA (FCC): 2.412 – 2.462 GHz (Ch1-11), Europe (CE): 2.412 – 2.472 GHz (Ch1-13), Japan (TELEC): 2.412 – 2.484 GHz (Ch1-14)

FEATURES
Auto detects and configures ISP type, Exposed Host (DMZ), MAC Address authentication, URL Content Filtering

APPLICATION SUPPORT
Works with most Internet gaming and instant messaging applications

INTERNET (WAN) LAN
1 port x 10/100 Mbps (auto-sensing) Ethernet (RJ45) 4 ports x 10/100 Mbps 10/100 Mbps (auto-sensing) Ethernet (RJ45)

LEDs
Power, Internet (WAN), WLAN, LAN Activity

POWER ADAPTOR
External DC 12V 800 mA

PHYSICAL CHARACTERISTICS

Dimensions (L x W x H): 6.3" x 4.25" x 1.18" (160 mm x 108 mm x 30 mm)

Weight: 0.52 lb (235 g)

Wireless Router 802.11b/g

Signamax 065-1786A, 802.11g WIRELESS Cable/DSL AP Router, is a 54 Mbps high-speed wireless residential router. It is specially designed to provide simple and cost-effective Internet Access solution for both home and SOHO users. Its Ethernet WAN interface provides access to Internet through any xDSL or Cable modem by its built-in 10/100 Mbps Ethernet LAN or WLAN (wireless LAN) interface.

Besides flexibility on LAN connectivity, Signamax 065-1786A AP/Router also provides network security and management features, such as Network Address Translation (NAT), Dynamic Host Configuration Protocol (DHCP), advanced packet filtering with hacker attack monitor, logging and Stateful Packet Inspection (Firewall-SPI), Universal Plug and Play (UPnP), Dynamic DNS (TZO DDNS), WiFi Protected Access (WPA), 802.1x + TKIP, Auto-Run.

54Mbps Wireless Router

PART NO.	DESCRIPTION
065-1786A	Signamax Wireless AP/Router / 54 Mbps

SPECIFICATIONS

STANDARDS
IEEE 802.3, IEEE 802.3u, IEEE 802.11g, IEEE 802.11b
RFC DHCP, RFC NAT
Channels: 11 channels (US, Canada), 13 channels (ETSI),
2 Channels (Spain), 4 Channels (France), 14 channels (Japan)
Cabling: CAT 5 Ethernet Network Cabling or better

MODULATION
Frequency Band: 802.11g Radio: 2.4 GHz,
802.11b Radio: 2.4 GHz
USA FCC 2,412 – 2,462 MHz (Ch1-Ch11)
Canada 2,412 – 2,462 MHz
Europe ETSI 2,400 – 2,483.5 MHz
Spain 2,457 – 2,462 MHz (Ch10-Ch11)
France 2,457 – 2,472 MHz (Ch1 0-Ch13)
Japan STD-T66/STD-33—2,412 – 2,484 MHz (Ch1-Ch14)
Modulation TYPE: OFDM, CCK

ANTENNA
SMA connector (dual connector option for on board diversity switch)

POWER
9V, 1,000 mA

ELECTROMAGNETIC COMPATIBILITY
TELEC
CC
ETSI
VCCI/JATE
CSA/TUV
Industry Canada
DGT

SECURITY
64/128-bit WEP/TKIP/AES-CCM/AES-OCB/ 802.1x,
support for LEAP/ SSN

ENVIRONMENT
Operating Temperature: -0° – 55°C
Storage Temperature: -20° – 75°C
Humidity: 15-90%, non-condensing
Dimensions (L x W x H): 8.63" x 5.25" x 1" (219.2 x 133.35 x 25.4 mm)

FEATURES

- **Flexible Connectivity interface (Wireless and Conventional RJ45 LAN port) Suitable for Different User Environments**
- **Wireless-Ethernet Bridge (Access Point with Roaming)**
- **Web-browser Based Configuration VOS Independent and Ease-of-Use**
- **Comprehensive LEDs Display Network Status**
- **Support Simple Network Time Protocol**
- **WAN-LAN Router**
- **DHCP Server / Client**
- **NAT**
- **SPI Firewall (Hacker Attack Logging, DoS and Client Filtering)**
- **PPP over Ethernet (WAN port)**
- **Dynamic IP (WAN)**
- **Static IP (WAN)**
- **PPTP WAN Connection**
- **Big Pond (WAN)**
- **Universal Plug and Play (UPnP)**
- **Dynamic DNS (DDNS)**
- **WiFi Protected Access (WPA)-802.1x + TKIP + SSN**
- **SNMP V2 Support (Available in Later Release)**
- **IAPP (Pre 802.11f)**
- **802.11d (Regulatory Domain Selection)**
- **Disable SSID Broadcast**
- **Support Auto-run for Easy Installation CD**

WAN FEATURES

- **10/100 Mbps WAN port**
- **DHCP Client**
- **PPP over Ethernet for xDSL Dial-up Service with Adjustable MTU Settings**
- **Static IP**
- **PPTP WAN Connection**
- **Big PondLAN FEATURES**
- **4-Port Auto-MDIX 10/100Mbps Switch**
- **Built-in 802.11g Compliant Wireless Module for Wireless Mobile Connectivity**
- **Bridging between Wireless and Wired LANs**
- **NAT (up to 253 users) Function allows Multiple PCs and Devices to Access the Internet**
- **Regardless the limitations of IP addresses**
- **DHCP ServerWireless LAN FEATURES**
- **Compliant with IEEE 802.11g**
  – Auto Data-Rate Shifting Please Provide Data Rates
- **Receive Sensitivity (Please Fill in the Correct Spec)**
- **WEP Encryption**
  – 64-Bit RC-4 WEP Key
  – 128-Bit RC-4 WEP key
- **Wireless Protected Access (WPA)**

Signamax Wireless ADSL Modem/Router

Signamax 065-1787, an economic combination of ADSL modem, Broadband Router, 802.11g Access Point, and 4-Port Switch. It is designed for SOHO and home users. It provides Internet access to all your LAN/WLAN users. 065-1787 is compliant with UR2 (Annex B) for ISDN environment. 065-1787 has an integrated 802.11g 54 Mbps Wireless Access Point, allowing simple and flexible access to all LAN or Internet resources by wireless users.

SPECIFICATIONS

PROTOCOLS
NAT/NAPT, PPPoE & PPPoA, HTTP, DHCP (client/Server), TCP/IP & UDP, PAP & CHAP, RIP1, DDNS, UpnP

FIREWALL/ALERTS
NAT firewall (ALG), Rule-based Policy Firewall, Attack Alert (E-mail) and log, Firewall for DoS (Denial of Service) attacks Security URL filter, Access Control, Local Password
VPN Pass Through: PPTP, IPSec, L2TP

ATM
Support AAL5, UBR, VPI Range (0-255) and VCI range (1-65535), 1 PVC (optional up to 16 PVCs),
OAM F4/F5 loopback, Payload Encapsulation,
RFC2684 (RFC1483), multi-protocol over ATM,
RFC2225 (RFC1577), IPoA, RFC2364, PPP over ATM (CHAP and PAP), RFC2516, PPPoE over ATM

MANAGEMENT
Web-based Management

WIRELESS DATA RATE
IEEE 802.11b, IEEE 802.11g

WEP
64 Bit, 128 Bit and 256 Bit

ANTENA
2 dbi

FREQUENCY BAND
2.4 – 2.4835 GHz ISM Band

MODULATION
802.11g: Orthogonal frequency division multiplexing
802.11b: Direct Sequence Spread Spectrum (PBCC, CCK, DQPSK, DBPSK)

WAN ADSL LINE INTERFACE
Comply to G.dmt (G.992.1) Annex A, Annex B
Automatic-rate adaptation in steps of 32 Kbps
Connector: RJ-11
Line Impedance: 100 Ω

LAN PORT
4 RJ45 10/100 Base-T auto negotiation switch

RESET BUTTON
Reset to factory default

LEDs
1 x Power, 1 x Status, 4 x 100LAN, 4 x 10LAN, 1 x WAN, 1 x WLAN

POWER
AC 15 V/1 A

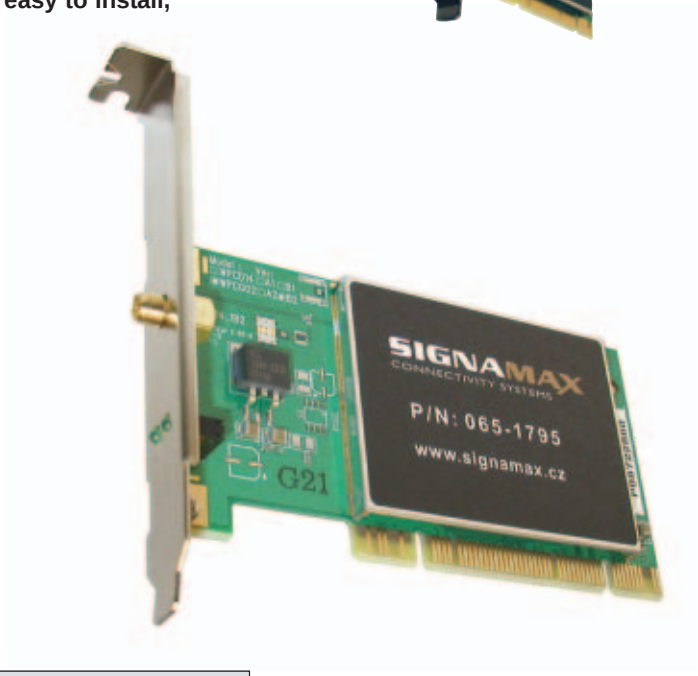
PHYSICAL CHARACTERISTICS
Dimensions (L x W x H):
183 mm x 125 mm x 31 mm
Regulation:
Annex A: FCC part 15, CUL
Annex B: CE, CB

Signamax Wireless ADSL Modem/Router

PART NO.	DESCRIPTION
065-1787	Wireless ADSL Modem/Router 1x WAN RJ-11, 4xLAN RJ45 10/100BASE-T

54/108 Mbps Wireless PCI Card

Signamax 065-1795 let you connect your desktop computer to a wireless network, and is suitable for small offices, home offices and places where cable can not be installed. At transfer rates of up to 54 Mbps and 108 Mbps turbo mode in the 2.4 GHz frequency range, users connected will enjoy faster downloads and truly instant email communication. For more secure communication, the 065-1795 supports the encryption settings up to 152-bit WEP, and advanced security of WPA and AES. With its web-based configuration the Access Point is easy to install, alter or activate advanced setting, or update with the latest firmware.



FEATURES

- **Fully Compliant with IEEE 802.11b and 802.11g Standard High-Speed Data Rate**
- **High-speed Wireless Connection Up to 108 Mbps Data Rate**
- **Support 64/128/152 bit WEP and WPA Encryption for Advanced Transfer Security**
- **Support Open System (OSA) and Shared Key Authentication (SKA) for Advanced Security**
- **Support both Ad-hoc Mode and Infrastructure Mode**
- **Seamless Roaming Function for Full Mobility: Automatic or Manual Rescan to associate with Access Point**

54/108 Mbps Wireless PCI Card

PART NO.	DESCRIPTION
065-1795	54/108 Mbps wireless PCI Card with external antenna connector

SPECIFICATIONS

STANDARDS
IEEE 802.11g, IEEE 802.11b
Modulation Type: BPSK, QPSK, 16 QAM, 64 QAM, OFDM
Frequency Band: 24–24,835 GHz ISM band
Operating Channels: 11 for N. America, 14 Japan, 13 Europe (ETSI), 2 Spain, 4 France
Data Rate: 802.11g: 108, 54, 48, 36, 24, 18, 12, 9 and 6 Mbp, 802.11b: 11, 5.5, 2, and 1 Mbps
Media Access Protocol: CSMA/CA with ACK

TRANSMITTER OUTPUT POWER
Typical RF Output Power at each Data Rate
+10 – 14 dBm at 54 Mbps; +11 – 15 dBm at 48 Mbps;
+13 – 15 dBm at 36 Mbps;
+17 – 18 dBm at 24, 18, 12, 9, and 6 Mbps

RECEIVER SENSITIVITY
Typical Sensitivity at Which Frame (1000-byte PDUs) Error Rate = 10%
-87 dBm at 6 Mbps; -86 dBm at 9 Mbps;
-85 dBm at 12 Mbps; -83 dBm at 18 Mbps;
-80 dBm at 24 Mbps; -76 dBm at 36 Mbps;
-71 dBm at 48 Mbps ; -66 dBm at 54 Mbps
External Antenna: Omni-directional dipole antenna with 2 dBi
Internal Consumption: Provides provision for an Internal Antenna attach (optional)

FORM FACTOR AND INTERFACE
PCI Local Bus 2.2 Compliance
Low-profile and half-length (PCI Raw Variable Height Short Card)
PCI 32-bit Interface
Operating Voltage: 5VDC +/- 10%

LEDs
Power LED, Network LED

GENERAL INFORMATION
General Information shows the name of Wireless Adapter, Adapter MAC Address, Regulatory Domain, Firmware Version and Utility Version

CURRENT LINK INFORMATION
Current Link Information shows the Current Setting ESSID, Channel Number, Associated BSSID, Network Type (infrastructure or Ad-hoc network), WEP Status (enable or disable), Link Status (Connect or Disconnect), 802.11g Transmit Speed (6, 9, 12, 18, 24, 36, 48, 54, and 108 Mbps), 802.11b Transmit Speed (1, 2, 5.5, 11 Mbps), Signal Strength, and Link Quality.

ESS ID
Input an SSID number if the roaming feature is enabled
Supports for ASCII printable characters

NETWORK TYPE
Ad-hoc Mode and 802.11 Ad-hoc Mode for network configurations that do not have any access point Infrastructure Mode for network configurations with access points

POWER SAVE
Extend the battery life of clients by allowing the client to sleep for short periods of time while the Access Point buffers the messages

ROAMING
Support Automatic or Manual Rescan to associate with access point

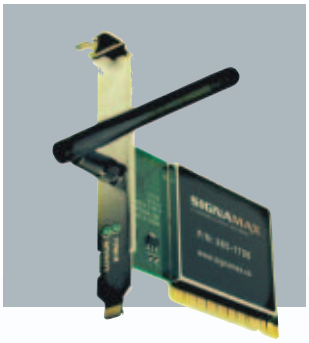
ENCRYPTION
RC4 encryption algorithm, Supports 64-bit, 128-bit, and 152-bit WEP and WPA encryption, Support open system (OSA) and shared key authentication (SKA)

DIMENSIONS
6.6" x 4.2" (168 x 107 mm)

Signamax Wireless PCI 802.11g Card

065-1798, Signamax Wireless-G PCI Adapter, installs in most desktops and lets you put your computer almost anywhere without the boundary of troublesome cabling. Once you're connected, you can surf the web, and enjoy all internet services with up to 128-bit Encryption Security Protection.

Convenient, fast, and cost-effective choice! The data transfer rate reaches incredible 54Mbps! 065-1798 is fully compliant with IEEE 802.11g standards, and runs 5 times faster than 802.11b. However, it is still compliant with existing 802.11b standard



FEATURES

- **High Speed for Wireless LAN Connection, up to 54 Mbps Data Rate**
- **5-Times Faster than Existing Wireless-B**
- **Interoperate with Existing Wireless-B Equipment Seamlessly**
- **Wireless Advanced Security: up to 128-bit WEP and WPA**
- **Maximum Operation Range: up to 350 Meters**
- **User-friendly Utility to Configure SSID, Security Setup and Site Survey with Multiple Languages**
- **Equipped with an External Dipole Antenna**

Signamax Wireless PCI 802.11g Card

PART NO.	DESCRIPTION
065-1798	Signamax Wireless-G PCI Adapter 54 Mbps

SPECIFICATIONS

STANDARDS
IEEE 802.11g, IEEE 802.11b
Channels: 11 Channelsfor USA, 13 Channels for Europe, 14 Channels for Japan

FREQUENCY BAND
802.11g Radio: 2.4 GHz
802.11b Radio: 2.4 GHz
Modulation TYPE: OFDM, CCK
Software Support: Windows 98SE/ME/2000/XP
Interface: PCI specification reversion 2.2

ANTENNA
Antenna type: 1/2 Dipole, external detachable
Frequency Band: 2.4 – 2.5 GHz
Impedance: 50 Ohms nominal
Gain: 2.0 dBi Peak
Radiation: Omni-directional
Polarization: Vertical
Connector: Reverse SMA connector

ESD
EN61000-4-2, which specifies 4 kV contact and 8 kV air discharge

POWER CONSUMPTION
TX: 480 mA Max; RX: 422 mA Max.

LEDs
Active/Link

SECURITY
Hardware 64/128-bit WEP, support for WPA/802.1x in Windows XP, Zero configuration

ENVIRONMENT
Operating Temp: 0° – 55°C (32° – 131°F)
5-90% non-Condensing
Storage Temp: -25° – 75°C (-13° – 167°F)
5-90% non-Condensing

CERTIFICATION
FCC/ETSI/CE

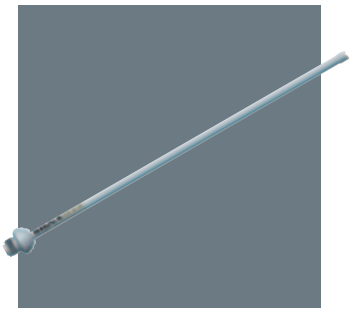
Accessories for WiFi units

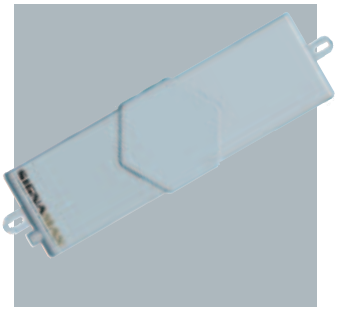
The 065-18xx Signamax series coaxial cable reductions are best to be used for connecting WiFi Access Point, Bridges, Clients and/or WiFi Routers to external antennas.

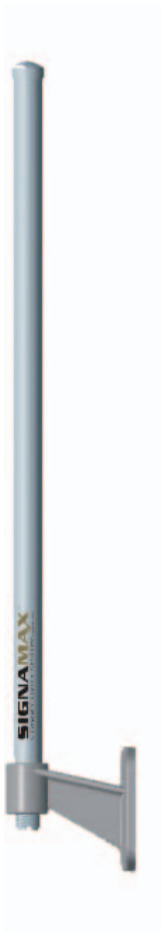
Signamax cables for connecting WiFi units to external antennas

PART NO.	DESCRIPTION	LENGTH
065-1811	Reduction from SMA female rev. (regular WiFi connector) to N male. Cable used: RG-58	0.25 m
065-1812	Reduction from SMA female rev. (regular WiFi connector) to N male. Cable used: RG-58	0.5 m
065-1813	Reduction from SMA female rev. (regular WiFi connector) to N male. Cable used: RG-58	0.75 m
065-1821	Reduction from SMA female rev. (regular WiFi connector) to N female. Cable used: RG-58	0.25 m
065-1822	Reduction from SMA female rev. (regular WiFi connector) to N female. Cable used: RG-58	0.5 m
065-1823	Reduction from SMA female rev. (regular WiFi connector) to N female. Cable used: RG-58	0.75 m
065-1832	Reduction from SMA female rev. (regular WiFi connector) to SMA male. Cable used: CNT-195	0.5 m
065-1834	Reduction from SMA female rev. (regular WiFi connector) to SMA male. Cable used: CNT-195	1 m
065-1836	Reduction from SMA female rev. (regular WiFi connector) to SMA male. Cable used: CNT-195	3 m
065-1838	Reduction from SMA female rev. (regular WiFi connector) to SMA male. Cable used: CNT-195	5 m

Antenna series for WiFi units



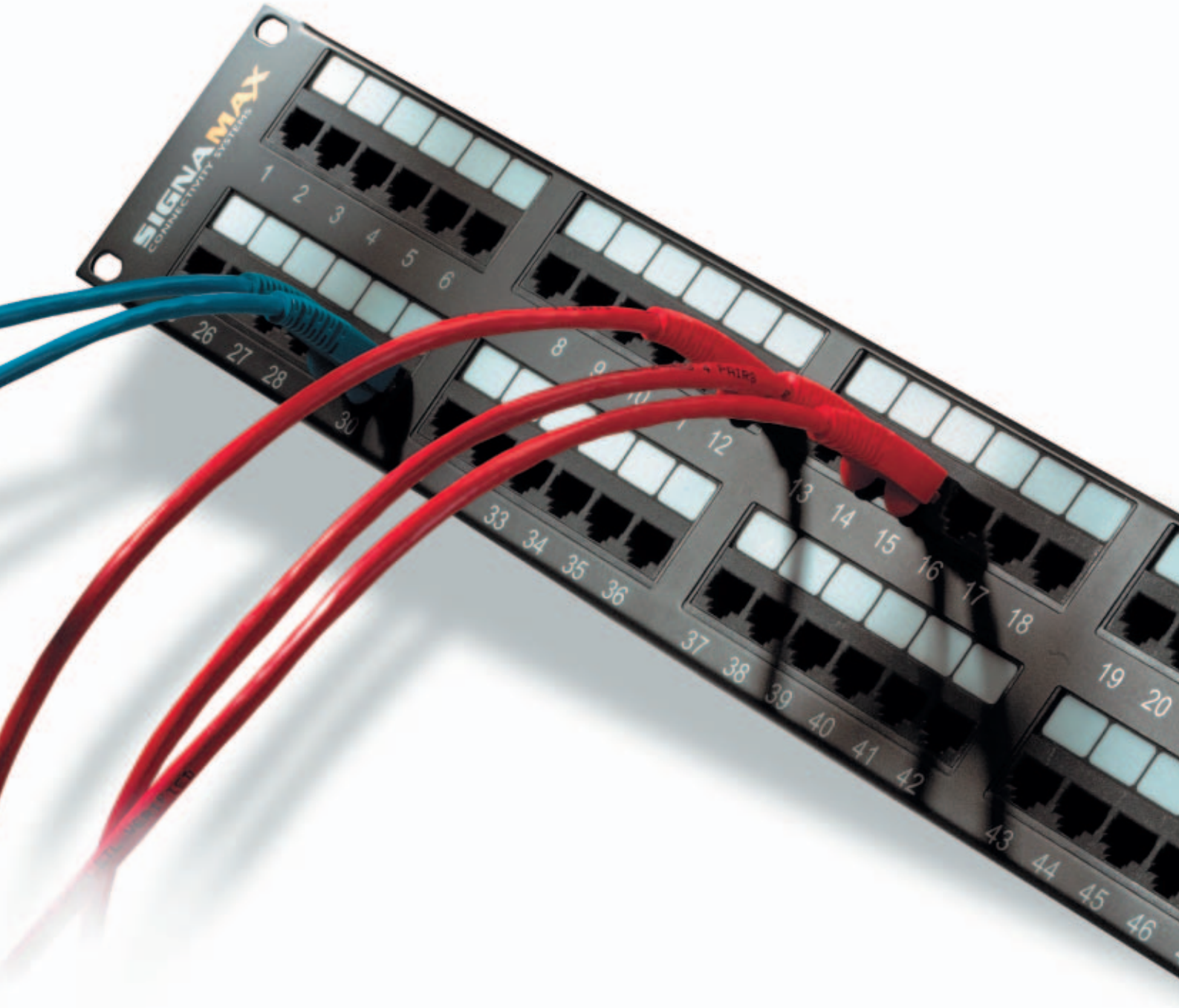




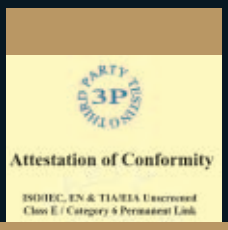
Signamax antennas for 2.4 GHz band

PART NO.	DESCRIPTION	CONNECTOR
065-2408	OMNI-8.5 Omnidirectional antenna, Gain 8.5 dBi, to be used in ISM band, 2.4 GHz, vertical HPBW, V25°	N female
065-2411	UNI-11 Unidirectional antenna, Gain 11.5 dBi, to be used in ISM band, 2.4 GHz, HPBW, H80°, V30°	SMA female
065-2412	OMNI-12 Omnidirectional antenna, Gain 12 dBi, to be used in ISM band, 2.4 GHz, HPBW, V20°	N female

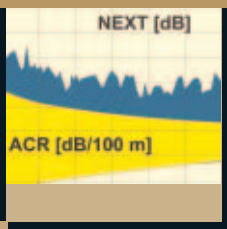
PREMISE CONNECTIVITY SYSTEMS



SIGNAMAX
CONNECTIVITY SYSTEMS



Structured Cabling



Introduction to Structured Cabling

What is Structured Cabling?

Structured Cabling Testing

10GBaseT and Structured Cabling

Introduction to Structured Cabling

History

Until the beginning of the 1980's, the majority of computer networks worked in the host/terminal mode. Applications as well as data were stored centrally on a host computer and user stations, so-called terminals, handled them in this centralized way. Considering the text character of this type of communication, it was not necessary to build special high capacity transmission paths in terminal networks.

The prevalence of terminal networks ended in 1981 when IBM launched their first personal computer onto the market. This new type of work station, which, contrary to terminals, was equipped with a local memory and their own outputs for connecting peripherals, meant a different—decentralized—mode of operation for users. This greater independence, however, brought two important issues,

1. Difficult administration of workstations (i.e. problem solving and software installation).
2. Mutual user cooperation.

It was therefore necessary to find a way that would enable to connect the new PC's into a network, through which it would be possible to share files, applications, and costly peripherals in the same manner as it had been previously on terminal networks.

In the beginning, several solutions arose from different producers. The differences in applied technologies and the diversity in the components of these new systems, however, led to their mutual incompatibility. The solution was to design a universal system, which would set recommended standards determining the electrical and physical characteristics of cables as well as connecting hardware. At the beginning of the 1990's, therefore, the American National Standards Institute (ANSI) asked Telecommunications Industry Association (TIA) and Electronic Industries Alliance (EIA) to propose a uniform standard for cabling systems. One of the most suitable ways for the new cabling system design was to use the already existing solution introduced by the American telecommunication company AT&T. These networks used AT&T's telephone distribution systems that were installed in most administrative buildings. They had a star topology and used a twisted pair cable as the main transmission medium. The outcome of the Standards Commission work was the first specification for structured cabling, which was published in July 1991 and was referred to as ANSI/TIA/EIA 568. Together with technical bulletins TSB-36 and TSB-40 issued a little later, the standard defined the basic transmission requirements for Category 3, 4, and 5.

In 1995, the first update of the above mentioned standard and also the first version of an international ISO/IEC 11801 standard were issued. A year later, in 1996, the organization CENELEC published the first European standard for structured cabling, with the designation EN 50173. As a result of a new high-speed protocols development (e.g. Gigabit Ethernet), these standards were updated in 2000 and 2002. The updates defined new parameters, which must be met by structured cabling components in order to comply with the new protocol requirements. The standards were supplemented with further measured or numerated parameters, such as PSNEXT, PSACR, PSELFEXT, Delay Skew, and so on. In these specification updates new Category 5 (today known as Category 5e, please see bellow for more information), and later Category 6 as well as Category 7, were introduced.

Introduction to Structured Cabling

Currently existing categories

Category 3—this is the first and thus oldest category in structured cabling. In the beginning, Category 3 components were used for both voice and data transmissions. The bandwidth was defined of up to 16 MHz with data rates of 10 Mbps. Today, Category 3 is predominantly used only for telephone distribution systems (e.g. connection from ISDN patch panels to telephone PBX board, telephone equipment cords etc).

Category 5e—at present, Category 5e (or Enhanced Category 5) is still the most frequently used category in structured cabling. The first standard for Category 5e was published in 2000 and was referred to as ANSI/TIA/EIA 568B.1 (for the American standards), CENELEC EN 50173-1:2000 (for the European standards), and ISO/IEC 11801:2000 (for the international standards). In CENELEC as well as ISO/IEC specifications it is still referred to as Category 5 (i.e. not Category 5e). The "Category 5e" is officially used only in ANSI/TIA/EIA standards; it was originally introduced by the manufactures themselves in order to distinguish between the already existing Category 5 components and the "new" improved Category 5 products (i.e. today known as Category 5e). As mentioned above, Category 5e structured cabling components are suitable for the Gigabit Ethernet protocol (i.e. 1000BaseT), which should fit the requirements of most company networks with regular data traffic. However, the 1 Gbps transmission rate is the limit for all Category 5e components and no further improvement will be possible.

Category 6—the final specification of Category 6 was published in 2002. The document update is known as ANSI/TIA/EIA 568B.2-1 (for the American standards), EN 50173-1:2002 (for the European standards), and ISO/IEC 11801:2002 (for the international standards). Category 6 is specified up to 200 MHz (standard bandwidth) and 250 MHz (testing bandwidth). The double available bandwidth in comparison with Category 5e requires higher component quality. On the other hand, if these quality requirements are met, Category 6 components offer improved performance and transmission reliability.

Category 6a—a new category that is currently being defined by the organizations that set the standard recommendations for structured cabling. The "new" Category 6 will be referred to as "Augmented Category 6" or "Category 6a". It is developed specifically for the new 10GBaseT Ethernet protocol in mind. Category 6a will offer 500 MHz bandwidth and thus will be suitable for the most data-intensive applications used on metallic computer networks. You can learn more about the 10GBaseT protocol as well as Category 6a further on in this catalogue (please see the "10GBaseT and Structured Cabling" section).

Category 7—this category was first mentioned in 1997, however, its specification was not finished before 2002. Now Category 7 is specified in CENELEC EN 50173-1:2002 and ISO/IEC 11801:2002 standards; in the TIA/EIA standards Category 7 is not mentioned. The bandwidth that is defined for the current Category 7 is 600 MHz (standard bandwidth) and 750 MHz (testing bandwidth). With reference to the Category 6a and its 500 MHz frequency, it will be necessary to re-define the current Category 7. It is estimated that a "new" Category 7 will be introduced and it will be referred to as "Augmented Category 7" or "Category 7a" with the bandwidth of up to 1,000 MHz.

The table bellow shows supported protocols, bandwidth, maximum transmission rates, and recommended use for all categories.

	Cat 3	Cat 4	Cat 5	Cat 5e	Cat 6	Cat 6a	Cat 7	Cat 7a
Supported Protocols	Analog. Voice, ISDN, 10BaseT	IBM Token Ring	100BaseT and lower	1000BaseT and lower	1000BaseTX and lower	10GBaseT and lower	10GBaseT and lower	10GBaseT and lower
Bandwidth	16 MHz	20 MHz	100 MHz	100 MHz	200 MHz/ 250 MHz	500 MHz	600 MHz/ 750 MHz	1,000 MHz
Maximum Transmission Rate	10 Mbps	16 Mbps	100 Mbps (Fast Ethernet)	1,000 Mbps (Gigabit Ethernet)	1,000 Mbps (Gigabit Ethernet)	10 Gbps	10 Gbps	10 Gbps
Usability	Predominantly telephone distribution systems	No longer installed	No longer installed	Regular data and voice traffic	Higher data traffic (multimedia, streaming)	High data traffic, backbone distribution systems, SAN	High data traffic, backbone distribution systems, SAN	High data traffic, backbone distribution systems, SAN

Introduction to Structured Cabling

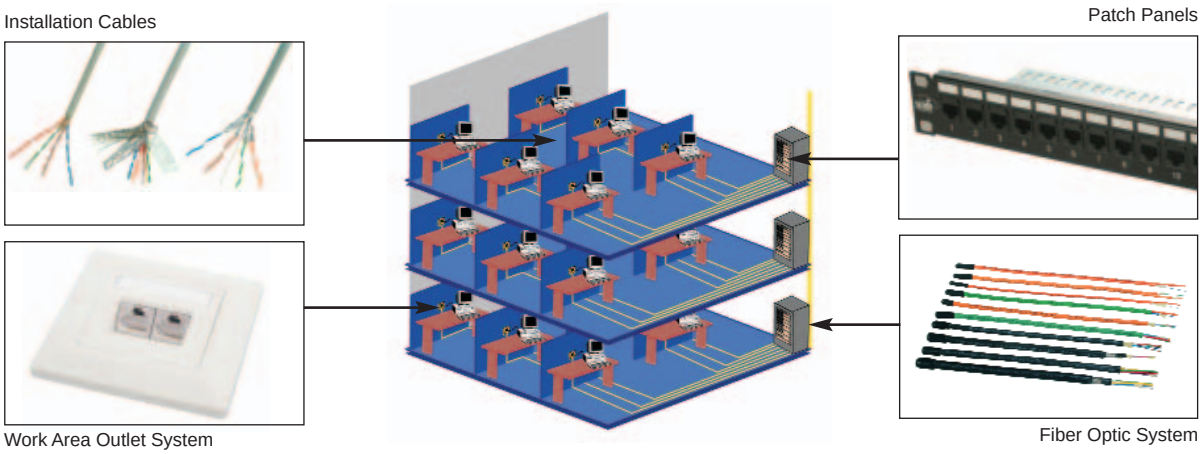
In the ISO/IEC 11801 generic cabling standard document, further copper cabling distinctions referred to as “Classes” were introduced. Classes are used for classifying the permanent link or channel performance rather than for rating the individual structured cabling components. The brief description of all classes as specified in the ISO/IEC standard is the following:

Class A—analogue voice telephony with the bandwidth of up to 10 KHz.
Class B—frequencies up to 1 MHz for voice and slow data links (i.e. IBM 3270 terminals etc.)
Class C—this class corresponds to a permanent link or channel performance using Category 3 components. Similarly to Category 3, it covers the bandwidth of up to 16 MHz. Its primary application today is to classify telephone distribution systems.
Class D—ratified in 1995 but updated in 2000 and 2002. Today Class D covers the bandwidth of up to 100 MHz.
Class E—this class was finished in 2002. Class E corresponds to the permanent link or channel performance using Category 6 components with the bandwidth of up to 200 MHz as standard and 250 MHz as the bandwidth to which Class E/Category 6 is actually tested.
Class F—this class covers the standard bandwidth of up to 600 MHz and the testing bandwidth of up to 750 MHz. Class F corresponds to the permanent link or channel performance of Category 7 components.

What is Structured Cabling?

Structured cabling is a universal system

- **that supports digital as well as analogical signal transmissions,**
- **in which the telecommunication outlets are installed even in locations where they are not needed at the moment of installation,**
- **that use data cables with four twisted pairs and fiber cables,**
- **in which long technical and also moral service life is expected,**
- **whose correct functionality is as important for a company as the functioning of the electrical distribution system or any other system in company’s infrastructure.**



Structured Cabling Testing

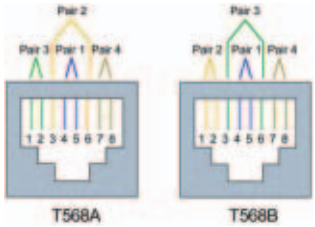
Testing has a major significance for the correct functionality of structured cabling. Testing devices are able to measure installed components and determine whether all requirements defined in the international standards necessary for reliable operation have been met. For Category 5e and Category 6 the following main parameters are measured:

Wire Map

This parameter checks the correct termination of cable wires in telecommunication outlets and patch panels, including the shielding in STP cabling. At the same time, it checks the signal throughput on the whole cable length—i.e. it is able to show any open-circuit or short circuit faults. The Wire Map parameter is very important but in itself it cannot ensure the correct functionality of an installed computer network.

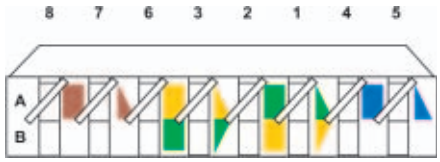
What to do if the Wire Map parameter fails?

First, it is necessary to check whether the individual wires have been installed correctly in the termination block. If so (i.e. the wire map corresponds to the standardized T568A or T568B schemes) and the Wire Map parameter still fails, there could be several causes for this: an incorrectly terminated wire in the termination block, a wire interruption inside the cable, or a short-circuit. Advanced testing devices are able to determine the location of the fault with a relatively high accuracy and by doing so make fixing the problem easier.



T568A and T568B wire map schemes:

T568A	T568B
1. white-green	1. white-orange
2. green	2. orange
3. white-orange	3. white-green
4. blue	4. blue
5. white-blue	5. white-blue
6. orange	6. green
7. white-brown	7. white-brown
8. brown	8. brown



NEXT (Near End Cross Talk)

NEXT is the value that expresses how much signal can get from one pair to another pair within one cable. The measurement of cross-talk at the near end takes place at the same end of the cable as the location of the signal source. For this parameter, all combinations of pairs are measured within one cable—i.e. 12-36, 12-45, 12-78, 36-45, 36-78, 45-78. This measuring is done for both ends.

What to do if the NEXT parameter fails?

First, it is essential to find out at which end of the cable NEXT is showing the error (this function is supported by all advanced testing devices). Then it is necessary to check the maximum permitted unlaid of wires in one pair on the termination block—that should not be more than 13 mm. Typically for category 6, the 13 mm does not necessarily ensure that the NEXT parameter will pass so it is essential to keep the pair unlaid as short as possible. It is also important that the original twisting of each pair is preserved during installation and that there is no air core between the twisted wires in a pair. A frequent source of cross-talk problems can also be the use of cable couplings. Hence if a cable is not long enough, it is better to replace it with a cable of a corresponding length rather than use couplings.

Attenuation

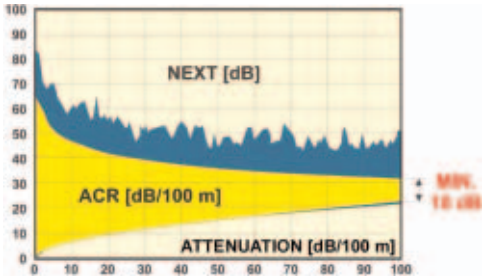
Attenuation shows the difference between the strength of the initial signal and the strength of the signal after it gets to the other end of the wire. It is caused mainly by the wire resistance and is usually larger for higher frequencies. Attenuation also increases as the diameter of the cable decreases—this means that a cable with a size of AWG 24 has a slightly higher attenuation than an AWG 23 cable.

What to do if the attenuation parameter fails?

The length of the horizontal cable must be checked—i.e. whether the electrical length of the link (the actual length of the twisted pairs inside the cable) corresponds to the maximum permitted permanent link of 90 m. A frequent cause of higher attenuation is also an incorrectly terminated wire in patch panels, outlets, or keystones.

Structured Cabling Testing

ACR (Attenuation to Crosstalk Ratio)
ACR is a theoretical parameter (i.e. it is not measured but is deduced from two previously measured values) which shows the margin between the NEXT and attenuation values: ACR [dB] = NEXT [dB] - A [dB]. If the level of attenuation meets or approaches the level of near end cross-talk, the transmitted signal will be lost. The interval between NEXT and attenuation must be at least 10 dB.



What to do if the ACR parameter fails?
As the ACR parameter is dependent on the NEXT as well as attenuation values, an improvement of these two parameters will influence the resulting ACR values.

FEXT (Far End Cross Talk)
FEXT expresses the cross-talk of the signal from one pair to another pair within one cable measured at the far end. This is the same parameter as NEXT, only with FEXT, the measurement is done at a different cable end. Again, all combinations of pairs are measured within one cable—i.e. 12-36, 12-45, 12-78, 36-45, 36-78, and 45-78. FEXT servers an important basis for the following ELFEXT parameter.

ELFEXT (Equal Level Far End Cross Talk)
ELFEXT corresponds much better to the actual situation during data transfer than FEXT. It is because the cross-talk inside the cable decreases as the attenuation increases. Just as with ACR, ELFEXT is a theoretical parameter (i.e. it is not measured but is calculated from other previously measured values): ELFEXT [dB] = FEXT [dB] - A [dB]. Thus ELFEXT is the cross-talk at the far end decreased by the attenuation.

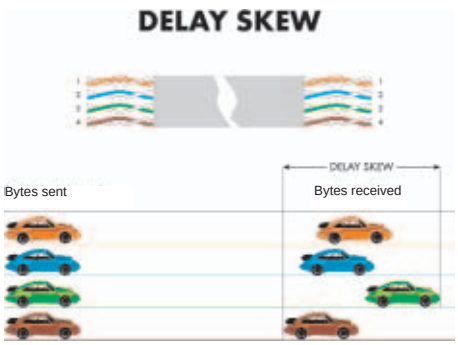
PSNEXT (Power Sum NEXT)
PSNEXT is a theoretical value calculated from the previously measured NEXT. The PSNEXT parameter is primarily important for protocols that use all four pairs for signal transfer (e.g. Gigabit Ethernet). The output sum of cross-talk at the near end shows how much signal gets from three pairs to the remaining fourth pair. The source of the signal and measurement of cross-talk takes place at the same end of the cable.

What to do if the PSNEXT parameter fails?
Just as with other parameters, PSNEXT is also influenced by the measured values of NEXT. Thus, an improvement in the near end cross-talk value will affect the resulting value of PSNEXT.

PSELFEXT (Power Sum ELFEXT)
PSELFEXT is calculated from the ELFEXT value. Just like PSNEXT, this parameter is important for protocols that use all four pairs for signal transfer. PSELFEXT expresses how much signal in the same cable gets from three pairs to the remaining fourth pair. The source of the signal and measurement of cross-talk takes place at opposite ends of the cable.

Propagation Delay
This value expresses a delay of the signal travelling from one end of the cable to the other. The typical delay of the signal in a category 5e cable is around 5 ns per 1 m; the permitted limit is 5.7 ns per 1 m, which is 570 ns per 100 m. Propagation Delay also serves as a basis for testing the Delay Skew value.

Delay Skew
Delay Skew shows the difference in signal delay between the fastest and the slowest pair. The Delay Skew parameter is affected by (1.) different length of the pairs; (2.) difference in material (resistance, impedance etc.); (3.) the effect of surrounding interference. If the difference is too great, there can be an incorrect interpretation of data by the active device (usually a switch, network card, etc.). Just as for PSNEXT and PSELFEXT, the Delay Skew parameter is critical for protocols that use all four pairs, such as Gigabit Ethernet.

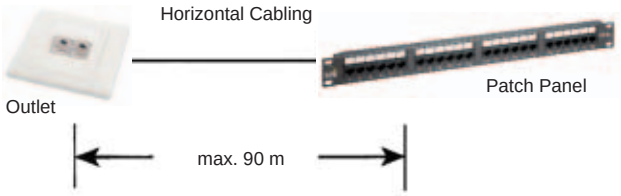


Structured Cabling Testing

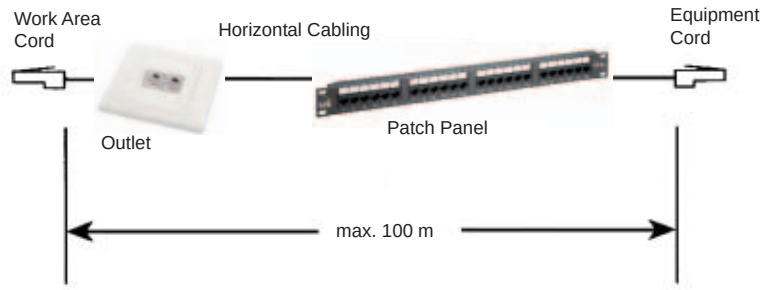
Length
There is a direct proportionality between the length and attenuation (i.e. the longer the length of cable, the higher the attenuation). Testing devices use so-called TDR (Time Domain Reflectometery) for measuring lengths. This means that a pulse is sent down the cable, then it is reflected back onto the remote unit, and subsequently the time during which the pulse travels the whole track is recorded. Based on the NVP (i.e. Nominal Velocity of Propagation, which expresses the signal speed in the cable as compared to the speed of light in a vacuum), the length of the measured segment is calculated. This concerns the length of the twisted pairs inside the cable (so-called electrical length), not “untangled” cable (so-called physical length). At 85 m, the variation between electrical and physical length can be up to 5 m depending on the twisting of each pair.

Return Loss
Return Loss shows the reflection of the signal because of varying impedance at different cable parts. Due to these impedance imbalances, part of the energy can return to the transmitter, which can cause the signal interference.

When testing structured cabling, two basic topologies are used:
Permanent link—the connection from the patch panel to the work area telecommunication outlet (i.e. horizontal cabling); this is the most permanent fixture on the structured caballing and cannot easily be taken apart. The maximum permitted length is 90 m.



Channel—the connection from the active device (e.g. switch) in the data rack to the network card in the computer, patch cords included. The recommended maximum length of an equipment cord in the data rack is 5 m; the maximum recommended length for work area cord is 20 m. The length of the channel (i.e. the horizontal caballing plus equipment cord as well as work area cord) should not exceed 100 m.



10GBaseT and Structured Cabling

Gigabit Ethernet was, until recently, considered to be the limit that would be very difficult to overcome on metallic structured cabling. Now it is obvious that 1Gbps will not be the maximum transmission rate that can be achieved on copper twisted pair cables. The new **10GBaseT** Ethernet standard that is being defined by the IEEE 802.3an group proves this. In the first stage, this new protocol with transmission speeds of up to 10Gbps will be primarily employed in backbone distribution systems, SAN's (Storage Area Networks), and data centres.

At present, the organizations that are involved in setting the standards for structured cabling (i.e. ANSI/TIA/EIA, CENELEC and ISO/IEC) are trying to find out:
1. Whether it will be possible to run 10GBaseT protocol on currently existing cabling.
2. The definition of new requirements for so-called third generation cabling systems specifically designated for 10GBaseT.

1. Running 10GBaseT on currently existing cabling
It will be possible to run 10GBaseT for a distance of up to 55 m on current unshielded Category 6 cabling. The factor that plays an important role in this length limitation is the so-called Alien Crosstalk (see below). On the other hand, it is believed that current shielded Category 6 and Category 7 cabling will enable to run 10GBaseT even to the full link distance (i.e. 90 m). On Category 5e cables, it will not be possible to operate 10GBaseT on any regular cable lengths.

2. New requirements for future cabling systems for 10GBaseT
A "new" Category 6 with bandwidth of up to 500 MHz will be defined. The cable attenuation will correspond to the requirements for current Category 7. This new category will be referred to as "Augmented Category 6" or "Category 6a" and will be defined in the upcoming structured cabling specification updates (e.g. TIA/EIA 568B.2-10 and TSB 155 for 10GBaseT). These updates are currently available only in drafts and have not been published for the wide public yet. The primary aim of the new category 6a is to achieve the full link length (i.e. 90m) also on unshielded cabling.

Similarly to Category 6a, a "new" Category 7 will be defined. It will be referred to as "Augmented Category 7" or "Category 7a" with bandwidth of up to 1,000 MHz (as compared to 600 MHz of the current Category 7).

One of the most important newly measured parameters for 10GBaseT (especially for unshielded cabling) will be Alien Cross Talk. It is a parameter that measures crosstalk from external sources (e.g. other cables in a bundle, electronic devices, telephones, etc.). Presently, it is being worked out how to measure the Alien Cross Talk. It is estimated that the specifications for the above mentioned categories and 10GBaseT standard will be finished in 2006.

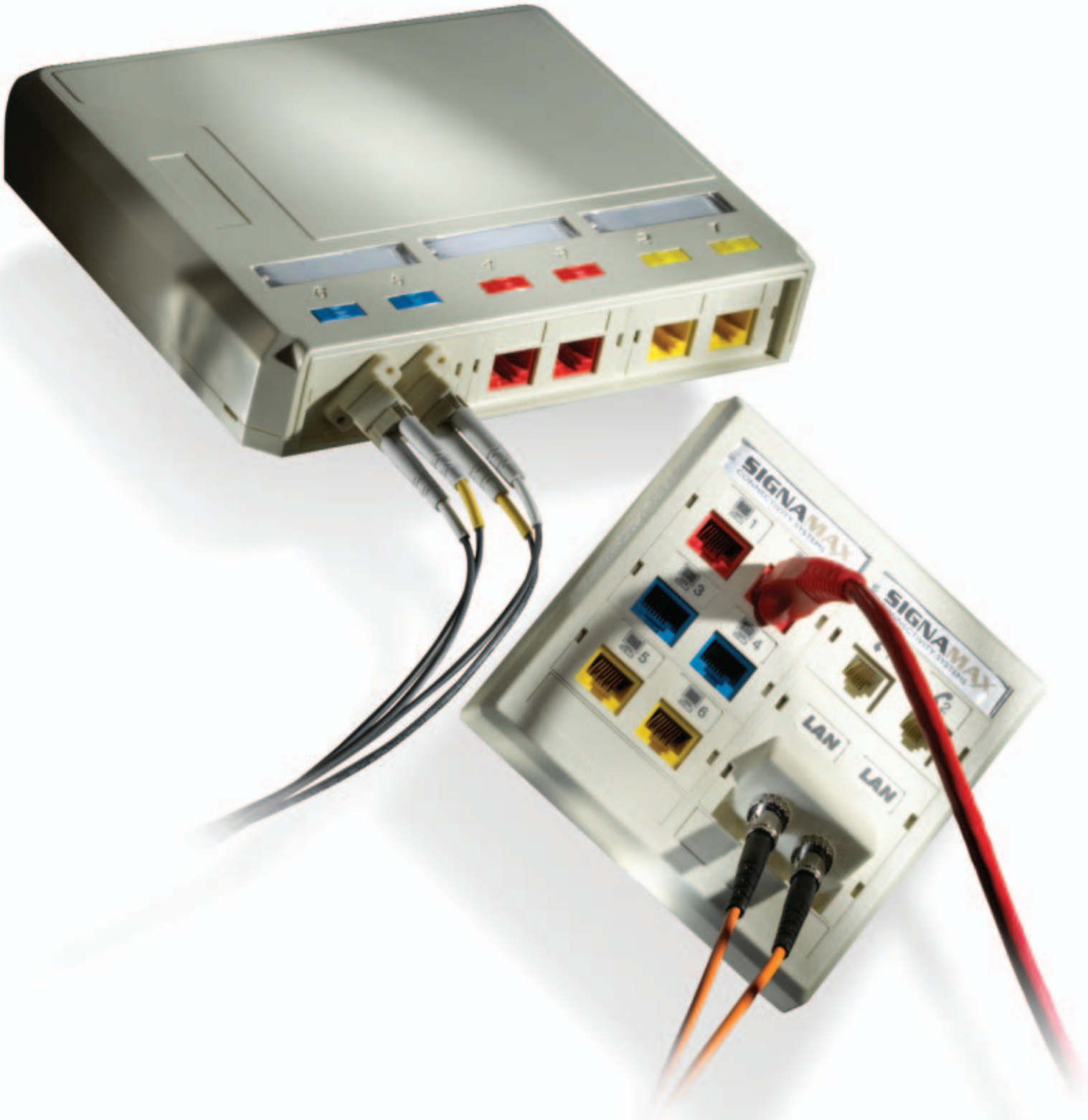
Signamax Category 7 shielded cable parameters (at temperature of 20°C).
The cable already supports 10GBaseT. See page K1 for more.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	PS-NEXT (dB)	ACR (dB/100 m)	PS-ACR (dB/100 m)	ELFEXT (dB/100 m)	PS-ELFEXT (dB/100 m)	Return loss (dB)
1	1.8	100	97	98	95	105	105	–
4	3.4	100	97	97	94	105	102	27
10	5.4	100	97	95	92	97	94	30
16	6.8	100	97	93	90	93	90	30
20	7.7	100	97	92	89	91	88	30
31.2	9.6	100	97	90	87	87	84	30
62.5	13.7	100	97	86	83	81	78	30
100	17.4	100	97	83	80	77	74	30
125	19.5	95	92	75	72	75	72	26
155.5	21.9	94	91	72	69	73	70	26
175	23.3	93	90	70	67	72	69	25
200	25.0	92	89	67	64	71	68	25
250	28.1	90	87	62	59	69	66	24
300	30.9	89	86	58	55	67	64	24
450	38.3	87	84	48	45	64	61	23
600	44.8	85	82	40	37	61	58	22
750	52.0	83	80	31	28	59	56	21
900	59.4	82	79	23	20	58	55	20

Signamax Category 6/6a shielded cable parameters (at temperature of 20°C).
The cable already supports 10GBaseT. See page K2 for more.

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	PS-NEXT (dB)	ACR (dB/100 m)	PS-ACR (dB/100 m)	ELFEXT (dB/100 m)	PS-ELFEXT (dB/100 m)	Return loss (dB)
1	1.8	100	97	98	95	105	105	–
4	3.4	100	97	97	94	105	102	27
10	5.4	100	97	95	92	97	94	30
16	6.8	100	97	93	90	93	90	30
20	7.7	100	97	92	89	91	88	30
31.2	9.6	100	97	90	87	87	84	30
62.5	13.7	100	97	86	83	81	78	30
100	17.4	100	97	83	80	77	74	30
125	19.5	95	92	75	72	75	72	26
155.5	21.9	94	91	72	69	73	70	26
175	23.3	93	90	70	67	72	69	25
200	25.0	92	89	67	64	71	68	25
250	28.1	90	87	62	59	69	66	24
300	30.9	89	86	58	55	67	64	24
400	38.3	87	84	48	45	64	61	23
500	44.8	85	82	40	37	61	58	22

PREMISE CONNECTIVITY SYSTEMS



SIGNAMAX™
CONNECTIVITY SYSTEMS

Work Area Outlet Systems

G

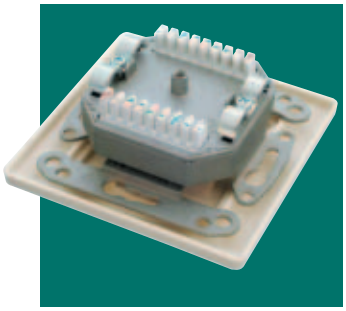
- Category 6 Wall Outlets
- Category 5e Wall Outlets
- Category 6 Keystone Jacks
- Category 5e Keystone Jacks
- Keystone Jack Modular Outlets
- Keystone Multimedia Modules

Category 6 Wall Outlets

Signamax Category 6 outlets are designed for an easy installation. This is ensured by strain relief providing cable positioning and screening contact between the shielded cable and metallic outlet housing. The outlet has a slim design and excellent EMC performance.

The modular construction of the outlet allows flush mounting or wall mounting installation using universal back box. The Signamax Category 6 outlets exceed all electrical parameters specified in the TIA/EIA 568-B.2-1, ISO/IEC 11801:2002, and EN 50173-1 standards. Both T568A and T568B wiring configurations are supported on the LSA+/Krone IDC termination block.

W45/6-2ESH/R



W45/6-2ESH/R back view uncovered

Category 6 Wall Outlets

PART NO.	DESCRIPTION
W45/6-2ESH/R	Shielded Wall Outlet Cat 6, 80 x 80 mm, color RAL 9010
W45/6-2ESH	Shielded Wall Outlet Cat 6, 80 x 80 mm, color RAL 1013
W45/6-2E/R	Unshielded Wall Outlet Cat 6, 80 x 80 mm, color RAL 9010
W45/6-2E	Unshielded Wall Outlet Cat 6, 80 x 80 mm, color RAL 1013
W45-AP80-32/R	Wall Mounted Back Box 80 x 80 x 32 mm, color RAL 9010
W45-AP80-32	Wall Mounted Back Box 80 x 80 x 32 mm, color RAL 1013

W45-AP80-32/R

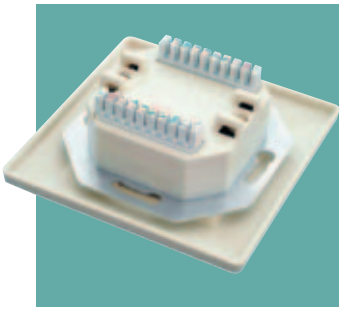
Category 5e Wall Outlets

For Signamax Category 5 Enhanced outlet its high transmission parameters is the key attribute. Two angled RJ45 ports are covered by plastic frame that fits trunking systems using 80 x 80 mm modules. Outlet has an excellent EMC performance and is developed for all demanding markets. Modular construction of the outlet allows flush mount or wall mount installation using universal back box. Space for port numbering stickers or direct marking above each port allows an easy administration and is user friendly.

W45/5-2E/R

Category 5e Wall Outlets

PART NO.	DESCRIPTION
W45/5-2ESH/R	Shielded Wall Outlet Cat 5e, 80 x 80 mm, color RAL 9010
W45/5-2ESH	Shielded Wall Outlet Cat 5e, 80 x 80 mm, color RAL 1013
W45/5-2E/R	Unshielded Wall Outlet Cat 5e, 80 x 80 mm, color RAL 9010
W45/5-2E	Unshielded Wall Outlet Cat 5e 80 x 80 mm, color RAL 1013
W45-AP80-32/R	Wall Mounted Back Box 80 x 80 x 32 mm, color RAL 9010
W45-AP80-32	Wall Mounted Back Box 80 x 80 x 32 mm, color RAL 1013



W45/5-2E/R back view uncovered

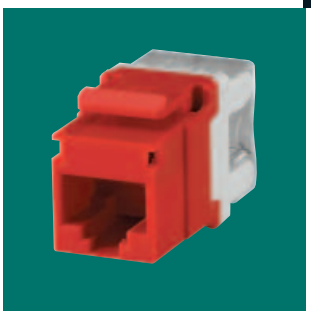
Category 6 Keystone Jacks

Signamax Connectivity Systems Category 6 Keystone Jacks have been designed to meet the need for high-bandwidth applications. Category 6 connectors are slim in profile for the highest density applications, and are engineered to exceed all TIA/EIA-568-B.2-1 Category 6 permanent link and channel level requirements. Category 6 jacks are fully tested to 250 MHz.

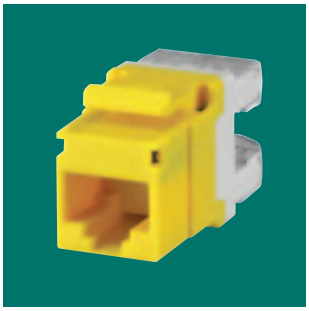
Category 6 jacks support both T568A and T568B wiring for maximum flexibility using an easy to read color-code wiring label and can be terminated using standard 110 or Krone termination tools. New contact design provide enhanced plug to jack connection integrity and protects against damage caused by insertion of 4 or 6 position plugs and are rated for 1,000 plug insertions providing for the highest level of system reliability.

These jacks feature the ability to mount either color-coded icon tabs for service identification or dust covers to protect unused jacks form dust and other contaminants. Jacks are available in various colors and are supplied with three color-matched icon tabs and dust covers for voice or data identification.

KJS458-C6


KJ458-C6-RD

KJ458-C6-BU


KJ458-C6-YE

KJ458-C6-BK

Category 6 Unshielded Keystone Jacks

PART NO.	DESCRIPTION
KJ458-C6-WH	Category 6 Unshielded Keystone Jack, Universal Wiring T568A/B, White
KJ458-C6-BK	Category 6 Unshielded Keystone Jack, Universal Wiring T568A/B, Black
KJ458-C6-BU	Category 6 Unshielded Keystone Jack, Universal Wiring T568A/B, Blue
KJ458-C6-GN	Category 6 Unshielded Keystone Jack, Universal Wiring T568A/B, Green
KJ458-C6-RD	Category 6 Unshielded Keystone Jack, Universal Wiring T568A/B, Red
KJ458-C6-YE	Category 6 Unshielded Keystone Jack, Universal Wiring T568A/B, Yellow

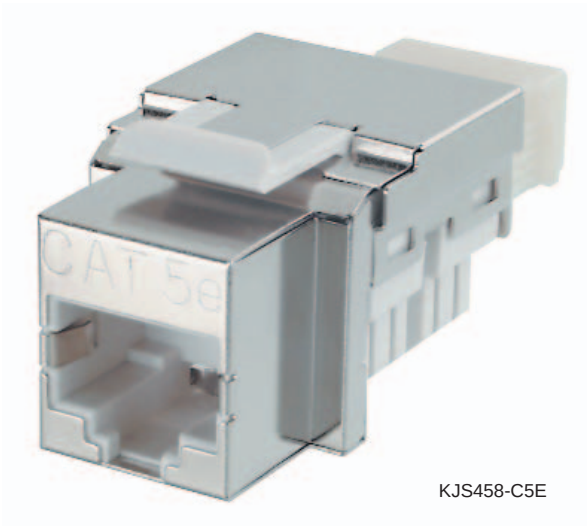
Category 6 Shielded Keystone Jack

PART NO.	DESCRIPTION
KJS458-C6	Category 6 Shielded Keystone Jack, Universal Wiring, T568A/B

Category 5e Keystone Jacks

Category 5e Keystone Jacks exceed permanent link and channel level requirements as defined in TIA/EIA-568-B.2 and are fully tested to 155 MHz. Provide a sound platform for supporting all today's network operating systems including Gigabit Ethernet.

Category 5e jacks can be terminated with industry standard 110 or Krone termination tools and feature color-coding for both T568A and T568B wiring. Jacks feature the ability to mount either color-coded icon tabs for service identification or dust covers to protect unused jacks form dust and other contaminants. Jacks are available in various colors and are supplied with three color-matched icon tabs and dust covers for voice or data identification.



KJS458-C5E

KJ458-C5E-RD

KJ458-C5E-YE

KRJ45/5S

Category 5e Unshielded Keystone Jacks

PART NO.	DESCRIPTION
KJ458-C5E-WH	Category 5e Unshielded Keystone Jack, Universal Wiring T568A/B, White
KJ458-C5E-BK	Category 5e Unshielded Keystone Jack, Universal Wiring T568A/B, Black
KJ458-C5E-BU	Category 5e Unshielded Keystone Jack, Universal Wiring T568A/B, Blue
KJ458-C5E-GN	Category 5e Unshielded Keystone Jack, Universal Wiring T568A/B, Green
KJ458-C5E-RD	Category 5e Unshielded Keystone Jack, Universal Wiring T568A/B, Red
KJ458-C5E-YE	Category 5e Unshielded Keystone Jack, Universal Wiring T568A/B, Yellow

Category 5e Shielded Keystone Jack

PART NO.	DESCRIPTION
KJS458-C5E	Category 5e Shielded Keystone Jack, Universal Wiring, T568A/B

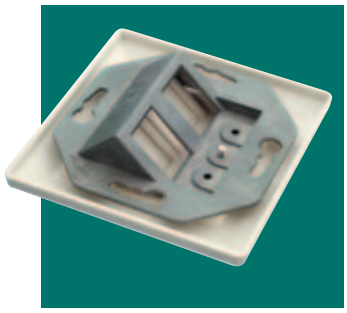
Category 5e Feed-Thru Coupler

PART NO.	DESCRIPTION
KRJ45/5S	Category 5e Panel Mount Feed-Thru Coupler, Black
KRJ45/5S-SH	Category 5e Shielded Panel Mount Feed-Thru Coupler, Black

Keystone Jack Modular Outlets

Modular outlets from Signamax are dedicated to be user-friendly solution for customers who need high modularity in reasonable quality. Contains wide range of outlets and frames, each usable for all keystone jacks, modular jacks and faceplates from our portfolio.

KJGM-WH



KJGM-WH – back

Keystone Jack Modular Outlets

PART NO.	DESCRIPTION
KJGM	Modular Outlet for 2 x 45 Keystone, 80 x 80 mm, Ivory
KJGM-WH	Modular Outlet for 2 x 45 Keystone, 80 x 80 mm, White

Keystone Multimedia Modules

Signamax Premise Connectivity System offers a wide range of keystone connector modules designed to create a customized multimedia solution in any single or double gang faceplate or surface mount box. Applications include wide variety of small form factor fiber optic couplers.

CMK-ST

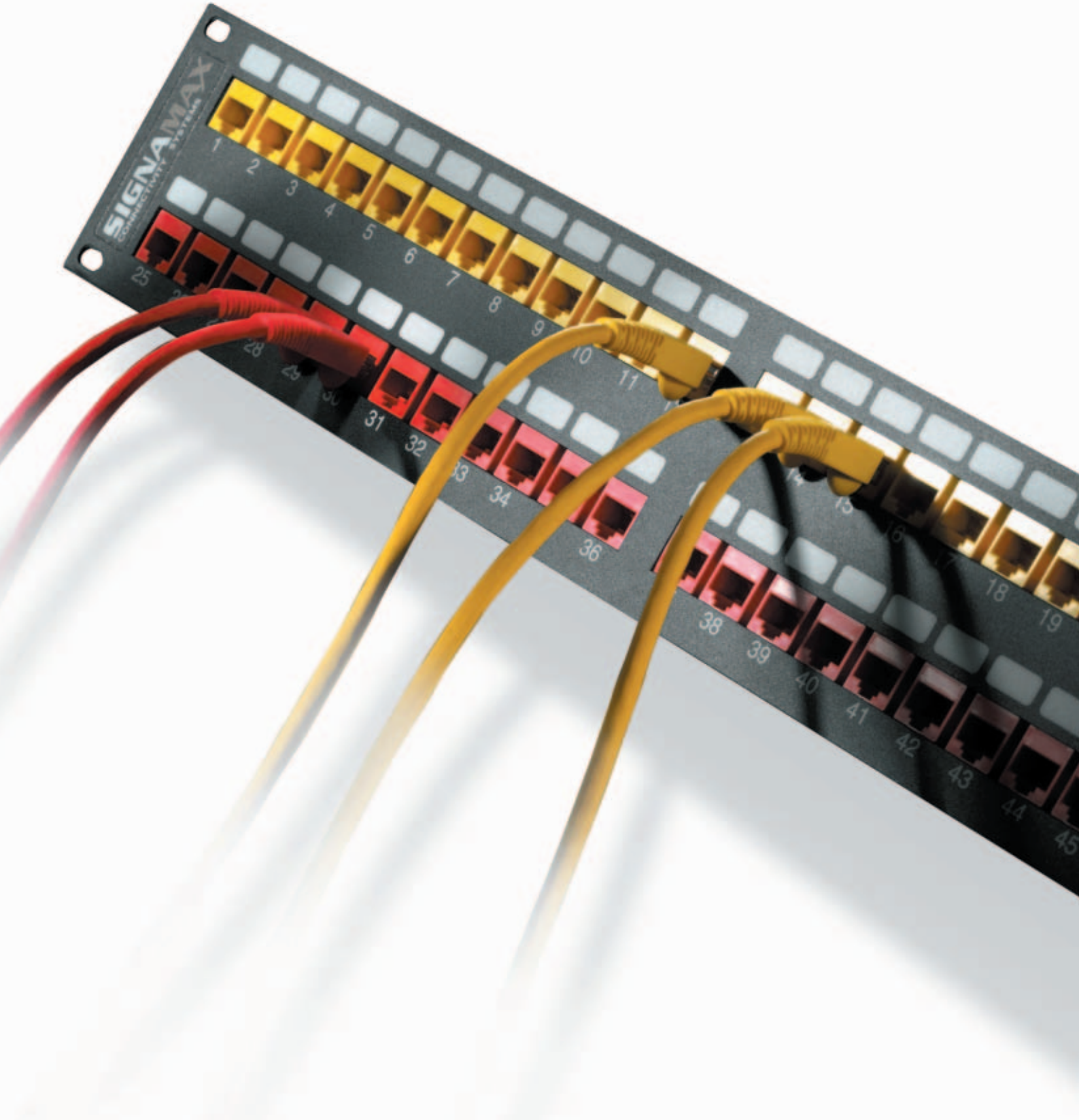
CMK-SC

CMK-BL

Keystone Multimedia Modules

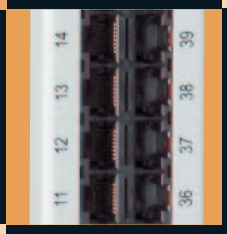
PART NO.	DESCRIPTION
CMK-BL	Blank Keystone Module
CMK-ST	ST MM Fiber Connector Module
CMK-SC	SC MM Fiber Connector Module

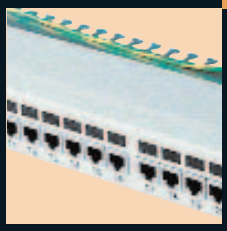
PREMISE CONNECTIVITY SYSTEMS



SIGNAMAX
CONNECTIVITY SYSTEMS

Patch Panels





- Category 6 Shielded Patch Panels
- Category 6 Unshielded Patch Panels
- Category 5e Shielded Patch Panels
- Category 5e Unshielded Patch Panels
- ISDN Patch Panels

Category 6 Shielded Patch Panels

Signamax shielded Category 6 patch panel is designed to be used with other Category 6 components as part of complete high-performance solution. The panel meets all electrical parameters specified in the TIA/EIA 568-B.2-1, ISO/IEC 11801:2002 and EN 50173-1 standards. It supports both T568A and T568B wiring configurations using an easy to read color-coded wiring label. Each port of the Signamax Category 6 panel is sequentially numbered for easy administration. The panel is equipped with finger-screw strain reliefs to secure the cables and to ensure proper connection between the shield of the cable and the panel. The Signamax shielded Category 6 patch panel is equipped with LSA+/Krone IDC termination block.

Category 6 Shielded Patch Panels

PART NO	DESCRIPTION	RACK SPACE
EPP-8KS6-24SH	24-Port Category 6 Shielded Patch Panel	1U

Each panel is supplied with a set of installation screws, earthing set and plastic ties for cable fixing. Cable organizer, base frames, blind panels and other accessories are available on special request.
Panel is supplied in grey colour (RAL 7035).

Category 6 Unshielded Patch Panels

Signamax Category 6 unshielded patch panels are designed to exceed TIA/EIA-568-B.2-1, ISO/IEC 11801:2002 and EN 50173-1 performance specifications providing usable bandwidth beyond 250 MHz. These high-density panels are available in 12- through 48-port versions and feature enhanced front and rear labeling for easy circuit identification. Signamax Category 6 unshielded panels support both T568A and T568B wiring configurations using an easy to read color-coded wiring label. These panels are constructed for maximum durability and feature a fully enclosed, 8-port modular design, which provides flexibility and protection of printed circuitry during termination. A newly designed RJ45 contact configuration provides enhanced plug to jack connection integrity for superior reliability. Rear termination is made quick and easy using a 4-pair inline 110 type connector compatible with industry standard 110 termination tool. The panels include an integrated cable management feature for routing and strain relief requirements.

24458MD-C6C

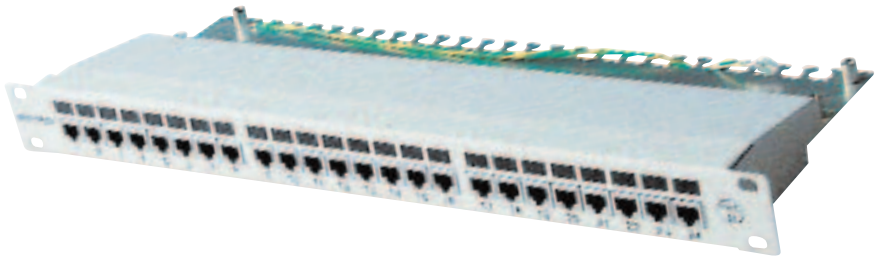
Category 6 Unshielded Patch Panels

PART NO	DESCRIPTION	RACK SPACE
12458MD-C6C	12-Port Category 6 Patch Panel, Universal Wiring T568A/B	1U
24458MD-C6C	24-Port Category 6 Patch Panel, Universal Wiring T568A/B	1U
48458MD-C6C	48-Port Category 6 Patch Panel, Universal Wiring T568A/B	2U

Standard jack colour is black. Other colour jacks are available.

Category 5e Shielded Patch Panels

Signamax Category 5e shielded patch panel is designed to exceed TIA/EIA-568-B.2, ISO/IEC 11801:2002 and EN 50173-1 performance specifications providing usable bandwidth beyond 155 MHz. This panel is available in 24-port version and features enhanced front and rear labeling for easy circuit identification. The panel supports both T568A and T568B wiring configurations using an easy to read color-coded wiring label. It is constructed for maximum durability and features a fully enclosed, 8-port modular design, which provides flexibility and protection of printed circuitry during termination. The Signamax shielded Category 5e panel includes an integrated cable management feature for cable routing and strain relief requirements.



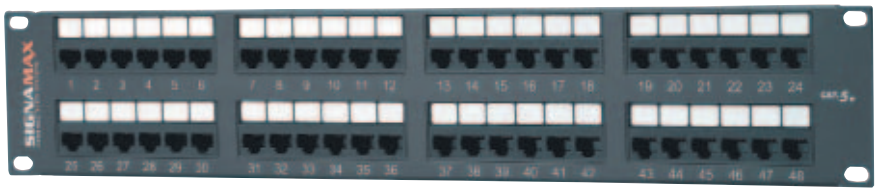
Category 5e Shielded Patch Panels

PART NO	DESCRIPTION	RACK SPACE
EPP-8KS5-24SH	24-Port Category 5e Shielded Patch Panel	1U

Each panel has Back Krone IDC block and is supplied with the grounding set and plastic ties for cable attachment.
Panel is supplied in grey colour (RAL 7035).

Category 5e Unshielded Patch Panels

Signamax Category 5e unshielded patch panels have been engineered for high-performance, high-density, and ease of installation. These panels exceed both component and channel performance as specified in TIA/EIA-568-B.2, ISO 11801:2002 and EN 50173-1, and include new features for port labeling, colour-coding and cable management. These Signamax Category 5e panels are designed for maximum strength, which allows for termination with a standard multi-pair 110 impact tool to reduce installation time. The panels feature a fully enclosed design for protection of printed circuitry during termination. The Signamax Category 5e unshielded panels include an integrated cable management feature for routing and strain relief requirements.



48458MD-C5E

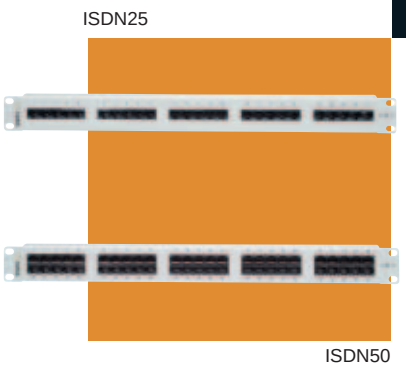
Category 5e Unshielded Patch Panels

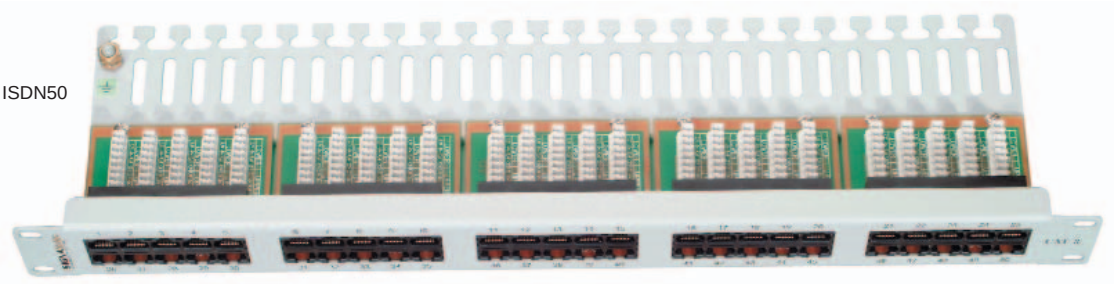
PART NO	DESCRIPTION	RACK SPACE
12458MD-C5E	12-Port Category 5e Patch Panel, Universal Wiring T568A/B	1U
24458MD-C5E	24-Port Category 5e Patch Panel, Universal Wiring T568A/B	1U
48458MD-C5E	48-Port Category 5e Patch Panel, Universal Wiring T568A/B	2U

Standard jack colour is black. Other colour jacks are available.

ISDN Patch Panels

Signamax ISDN Category 3 patch panel is a high-density telecommunication panel with 25 and 50 standard RJ45 jacks. The panel meets all latest standards and electrical parameters and is designed for termination of two pair cable in Krone termination blocks. Printed circuit board together with high quality components ensures the Category 3 performance. Integrated back cable management for separate cables provides organized and secure installation. All ports are numbered. The panel is available in 1U height.





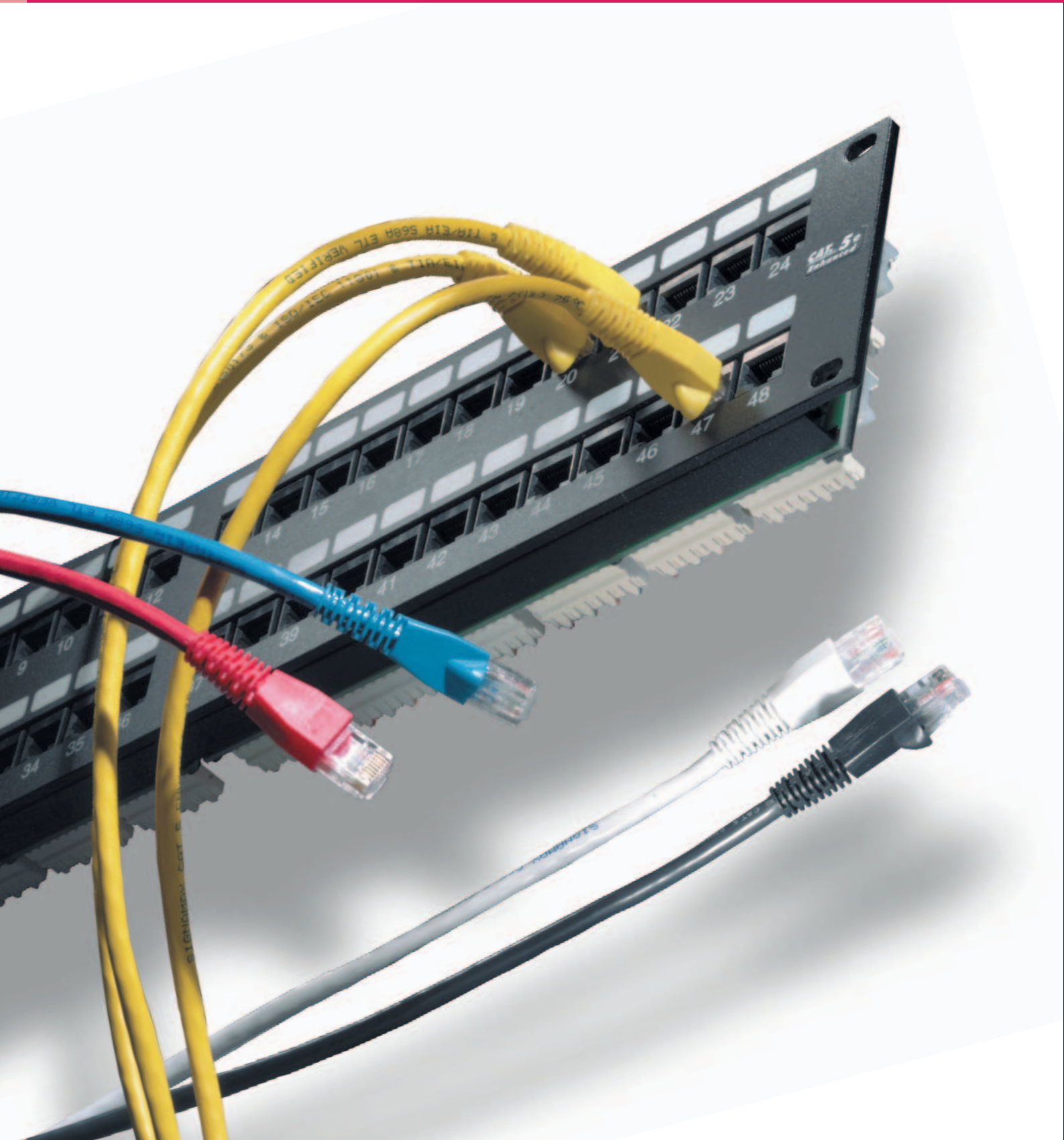
Category 5e Shielded Patch Panels

PART NO	DESCRIPTION	RACK SPACE
ISDN25	25-Port Category 3 ISDN Patch Panel	1U
ISDN50	50-Port Category 3 ISDN Patch Panel	1U

SPECIFICATIONS
25-port Category 3 ISDN patch panel
Front connector
RJ45, 8P8C, connected pins 3-6
Plated by 30 micro inches of gold over nickel
Jacks grouped into blocks by 5 pieces, single layer
Terminal block
4 position Krone block, 4P4C, all connected
DIMENSIONS (H x W x D)
43.8 mm x 464.7 mm x 130.5 mm

SPECIFICATIONS
50-port Category 3 ISDN patch panel
Front connector
RJ45, 8P8C,connected pins 3-6
Plated by 30 micro inches of gold over nickel
Jacks grouped into blocks by 5 pieces, double layer
Terminal block
8 position Krone block, 8P8C, all connected
DIMENSIONS (H x W x D)
43.8 mm x 464.7 mm x 130.5 mm

PREMISE CONNECTIVITY SYSTEMS



SIGNAMAX
CONNECTIVITY SYSTEMS

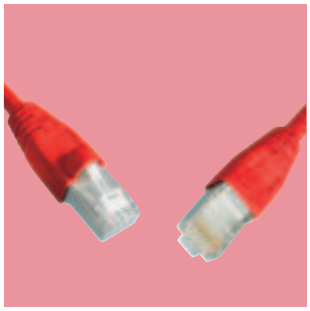
Patch Cords/Testers

J

- S-FTP Category 6 Patch Cords
- S-FTP Category 5e Patch Cords
- UTP Category 6 Patch Cords
- UTP Category 5e Patch Cords
- T-Adapters and Testers
- Inline Couplers and Connection Boxes

S-FTP Category 6 Patch Cords

Signamax shielded Category 6 patch cables with high quality Category 6 connector are assembled using 26 AWG individually shielded pairs patch cable. The high quality Category 6 plugs are plated by gold over nickel on polished bronze for up to 2,500 plug cycles. Protection provided by rubber boots prevents pair-to-pair disturbance inside the body of the connector and increases performance of the patch cable.



C6-315RD

C6-315GY

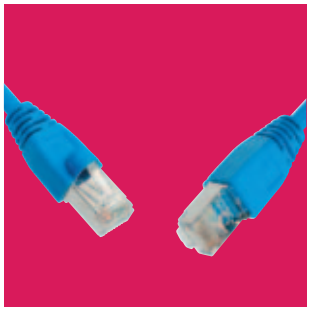
S-FTP Category 6 Patch Cords

LENGTH	GREY	GREEN	BLUE	RED	YELLOW
0.5 m	C6-315GY-0.5 MB	C6-315GR-0.5 MB	C6-315BU-0.5MB	C6-315RD-0.5 MB	C6-315YE-0.5 MB
1 m	C6-315GY-1 MB	C6-315GR-1 MB	C6-315BU-1MB	C6-315RD-1 MB	C6-315YE-1 MB
2 m	C6-315GY-2 MB	C6-315GR-2 MB	C6-315BU-2MB	C6-315RD-2 MB	C6-315YE-2 MB
3 m	C6-315GY-3 MB	C6-315GR-3 MB	C6-315BU-3MB	C6-315RD-3 MB	C6-315YE-3 MB
5 m	C6-315GY-5 MB	C6-315GR-5 MB	C6-315BU-5MB	C6-315RD-5 MB	C6-315YE-5 MB
7 m	C6-315GY-7 MB	C6-315GR-7 MB	C6-315BU-7MB	C6-315RD-7 MB	C6-315YE-7 MB
10 m	C6-315GY-10 MB	C6-315GR-10 MB	C6-315BU-10MB	C6-315RD-10 MB	C6-315YE-10 MB

Other lengths, colours or halogen free cables on request.

S-FTP Category 5e Patch Cords

Signamax shielded Category 5 Enhanced patch cables are assembled using high quality 26 AWG double shielded patch cable. Protection provided by molded boots prevents pair-to-pair disturbance inside the body of the connector and increases performance of the patch cable.



C5E-315BU

C5E-315GY

S-FTP Category 5e Patch Cords

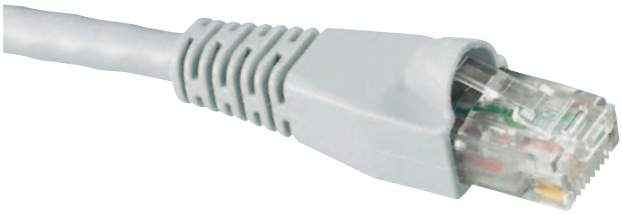
LENGTH	GREY	GREEN	BLUE	RED	YELLOW
0.5 m	C5E-315GY-0.5 MB	C5E-315GR-0.5 MB	C5E-315BU-0.5 MB	C5E-315RD-0.5 MB	C5E-315YE-0.5 MB
1 m	C5E-315GY-1 MB	C5E-315GR-1 MB	C5E-315BU-1 MB	C5E-315RD-1 MB	C5E-315YE-1 MB
2 m	C5E-315GY-2 MB	C5E-315GR-2 MB	C5E-315BU-2 MB	C5E-315RD-2 MB	C5E-315YE-2 MB
3 m	C5E-315GY-3 MB	C5E-315GR-3 MB	C5E-315BU-3 MB	C5E-315RD-3 MB	C5E-315YE-3 MB
5 m	C5E-315GY-5 MB	C5E-315GR-5 MB	C5E-315BU-5 MB	C5E-315RD-5 MB	C5E-315YE-5 MB
7 m	C5E-315GY-7 MB	C5E-315GR-7 MB	C5E-315BU-7 MB	C5E-315RD-7 MB	C5E-315YE-7 MB
10 m	C5E-315GY-10 MB	C5E-315GR-10 MB	C5E-315BU-10 MB	C5E-315RD-10 MB	C5E-315YE-10 MB
15 m	C5E-315GY-15 MB	C5E-315GR-15 MB	C5E-315BU-15 MB	C5E-315RD-15 MB	C5E-315YE-15 MB
20 m	C5E-315GY-20 MB	C5E-315GR-20 MB	C5E-315BU-20 MB	C5E-315RD-20 MB	C5E-315YE-20 MB

Other lengths, colours or halogen free cables on request.

UTP Category 6 Patch Cords

Signamax continues to set the standard for high-quality, high-performance patch cords. These Category 6 cables are manufactured to the strictest performance requirements as specified in TIA/EIA-568-B.2-1, ISO 11801:2002 and EN 50173-1 using the highest-level connector design and cable construction. Signamax category 6 patch cords incorporate slim-profile snag-free boots, which protect the plug latch, and a flexible, but durable cable strain relief. All patch cords use a special new connector design that assures maximum pair twist for unparalleled transmission performance and signal integrity. All cords are 100% tested.

C6-114GR



C6-114GY

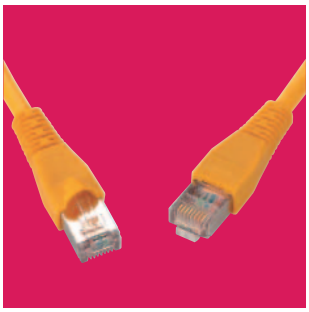
UTP Category 6 Patch Cords

LENGTH	GREY	GREEN	BLUE	RED	YELLOW
0.5 m	C6-114GY-0.5 MB	C6-114GR-0.5 MB	C6-114BU-0.5 MB	C6-114RD-0.5 MB	C6-114YE-0.5 MB
1 m	C6-114GY-1 MB	C6-114GR-1 MB	C6-114BU-1 MB	C6-114RD-1 MB	C6-114YE-1 MB
2 m	C6-114GY-2 MB	C6-114GR-2 MB	C6-114BU-2 MB	C6-114RD-2 MB	C6-114YE-2 MB
3 m	C6-114GY-3 MB	C6-114GR-3 MB	C6-114BU-3 MB	C6-114RD-3 MB	C6-114YE-3 MB
5 m	C6-114GY-5 MB	C6-114GR-5 MB	C6-114BU-5 MB	C6-114RD-5 MB	C6-114YE-5 MB
7 m	C6-114GY-7 MB	C6-114GR-7 MB	C6-114BU-7 MB	C6-114RD-7 MB	C6-114YE-7 MB
10 m	C6-114GY-10 MB	C6-114GR-10 MB	C6-114BU-10 MB	C6-114RD-10 MB	C6-114YE-10 MB

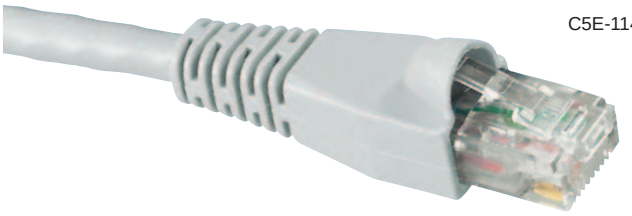
Other lengths, colours or halogen free cables on request.

UTP Category 5e Patch Cords

Signamax unshielded Category 5 Enhanced patch cables with high quality connector are assembled using high quality 26 AWG patch cable. High quality plugs are plated by gold over nickel on polished bronze for up to 2,500 plug cycles. Protection provided by molded boots prevents pair-to-pair disturbance inside the body of the connector and increases performance of the patch cable.



C5E-114YE



C5E-114GY

UTP Category 5e Patch Cords

LENGTH	GREY	GREEN	BLUE	RED	YELLOW
0.5 m	C5E-114GY-0.5 MB	C5E-114GR-0.5 MB	C5E-114BU-0.5 MB	C5E-114RD-0.5 MB	C5E-114YE-0.5 MB
1 m	C5E-114GY-1 MB	C5E-114GR-1 MB	C5E-114BU-1 MB	C5E-114RD-1 MB	C5E-114YE-1 MB
2 m	C5E-114GY-2 MB	C5E-114GR-2 MB	C5E-114BU-2 MB	C5E-114RD-2 MB	C5E-114YE-2 MB
3 m	C5E-114GY-3 MB	C5E-114GR-3 MB	C5E-114BU-3 MB	C5E-114RD-3 MB	C5E-114YE-3 MB
5 m	C5E-114GY-5 MB	C5E-114GR-5 MB	C5E-114BU-5 MB	C5E-114RD-5 MB	C5E-114YE-5 MB
7 m	C5E-114GY-7 MB	C5E-114GR-7 MB	C5E-114BU-7 MB	C5E-114RD-7 MB	C5E-114YE-7 MB
10 m	C5E-114GY-10 MB	C5E-114GR-10 MB	C5E-114BU-10 MB	C5E-114RD-10 MB	C5E-114YE-10 MB
15 m	C5E-114GY-15 MB	C5E-114GR-15 MB	C5E-114BU-15 MB	C5E-114RD-15 MB	C5E-114YE-15 MB
20 m	C5E-114GY-20 MB	C5E-114GR-20 MB	C5E-114BU-20 MB	C5E-114RD-20 MB	C5E-114YE-20 MB

Other lengths, colours or halogen free cables on request.

T-Adapters and Testers

When installing a cabling system, checking for open or short circuits is always a requirement. Signamax remote cable testers answer the need for testing T568A, T568B, 10BaseT, 10Base2, 10Base5 and Token Ring systems, for UTP and STP cabling.

E079X

Remote Cable Tester with USB Port

PART NO	DESCRIPTION
E097X	Remote Cable Tester with USB Port

TA-V1

T-Adapters

PART NO	DESCRIPTION
TA-V1	T-Adapter for splitting 4-pair Outlet to one 10Base-T and one Telephone Outlet
TA-V2	T-Adapter for splitting 4-pair Outlet to two 10Base-T Outlets
TA-V3	T-Adapter for splitting 4-pair Outlet to two Telephone Outlets

T-Adapters must be used in pairs.

Inline Couplers and Connection Boxes

Inline couplers and connection boxes allow a simple operation with installation cables, which can be easily extended. Broken cables can be coupled with no need to install new complete cable segment. Connection boxes can be used for all standard 4- to 8-wire installation cables of 26-22 AWG up to 10 mm outer diameter.

KRJ45-VEBB

Inline Couplers and Connection Boxes

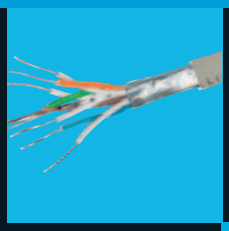
PART NO	DESCRIPTION
KRJ45-S	Inline Coupler E-TA 8/8 unshielded RJ45 UTP
KRJ45-VEBB	Inline Coupler E-TA 8/8 shielded RJ45 STP
KRJ45-VEB6	Connection Box LSA+ up to 600 MHz, Cat6, unshielded
KRJS45-VEB6	Connection Box LSA+ up to 600 MHz, Cat6, shielded
KRJ45-VEB5	Connection Box LSA+, Cat5e, unshielded
KRJS45-VEB5	Connection Box LSA+, Cat5e, shielded

KRJ45-VEB6

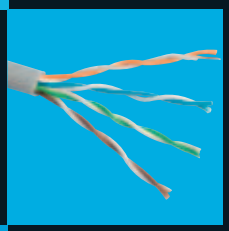
PREMISE CONNECTIVITY SYSTEMS

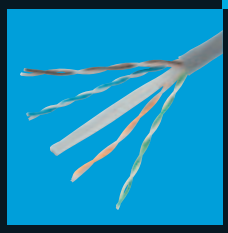
SIGNAMAX
CONNECTIVITY SYSTEMS

Installation Cable



10GBaseT
compatible





K

S-STP Category 7 Installation Cable

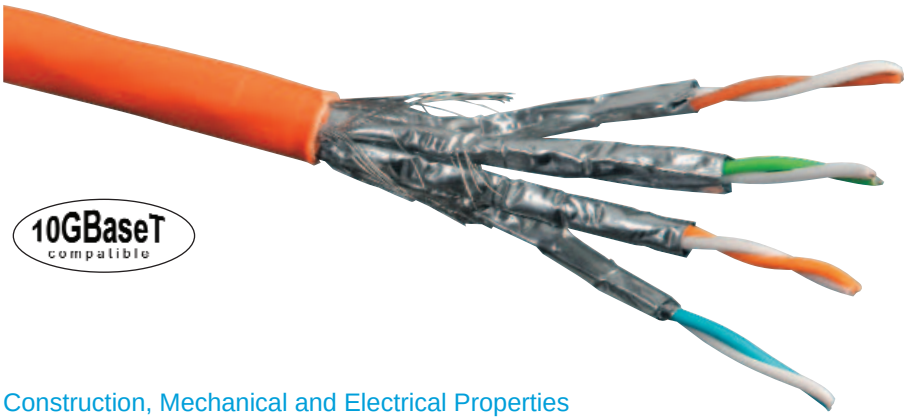
FTP Category 6/6a Installation Cable

UTP Category 6 Installation Cable

UTP Category 5e Installation Cable

S-STP Category 7 Installation Cable

Signamax Category 7 shielded installation cable complies with the most stringent parameters with significant headroom for installation safety. Selected design goes hand-in-hand with the best quality which, with strictly controlled production, guarantees the highest performance. The shielded Category 7 installation cable is produced in S-STP configuration (PimF—Pair in metal foil) and is tested up to 900 MHz. Its excellent performance ensures full compatibility with all new high-speed data protocols, such as 10GBaseT. Foamed PE insulated conductors in the cable have the pairs shielded by aluminum foil (each pair separately) and copper braid (all four pairs). Sheath material is supported by fire retardant halogen free compound. Signamax Category 7 shielded nstallation cable complies with the latest standards as specified in EN 50173-1 and ISO/IEC 11801:2002.



Construction, Mechanical and Electrical Properties

Bending radius	
Minimum bending radius, installation	8 x D
Minimum bend radius, installed	4 x D

Tensile strength	
Maximum tensile load, installation	100 N
Maximum tension load, installed	No stretch

Temperature limits	
Installation	0° to +50°C
Operation	-20° to +60°C

Fire classification	
LSOH	IEC 60332-1

Heat release	
LS0H	500 MJ/km

Insulation resistance	> 5,000 MΩ/km
Resistance unbalance, maximum	2%
NVP	79%
Delay skew	20 ns/100 m
Diameter of copper conductor	AWG 23
Outer diameter	7.0 mm
Weight	65 kg/km

Transfer impedance, nominal IEC96-1	
1 MHz	1.1 MΩ/m
10 MHz	1.0 MΩ/m

Transmission characteristics acc. to Category 7 (at 20°C)

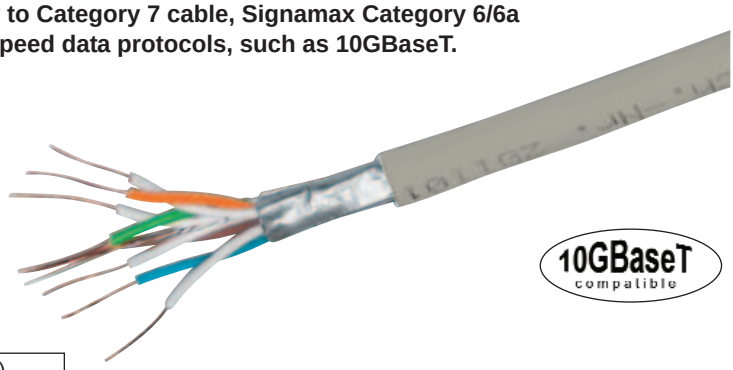
Frequency (MHz)	Attenuation, nom. (dB/100 m)	NEXT (dB)	ACR (dB)
1.00	1.9	118	116
10.00	5.8	105	99
16.00	7.1	100	93
20.00	8.0	99	91
31.25	10.0	98	88
62.50	14.7	94	79
100.00	18.5	90	71
300.00	29.0	83	54
600.00	48.7	77	28
750.00	54.0	75	21
900.00	57.0	74	17

S-STP Category 7 Installation Cable

PART NO.	DESCRIPTION
BC7-4DS-HF	Category 7 S-STP Installation Cable, 500 m reels, LSOH

FTP Category 6/6a Installation Cable

Signamax Category 6/6a FTP installation cable is manufactured to the highest quality standards and easily exceeds all applicable performance specifications for Category 6 as defined in TIA/EIA-568-B.2-1, ISO/IEC 11801:2002 and EN 50173-1. Moreover, this Signamax installation cable is tested up to 500 MHz and its excellent performance at this high bandwidth ensures its compliance with the new Category 6a. Similarly to Category 7 cable, Signamax Category 6/6a shielded installation cable is suitable for high-speed data protocols, such as 10GBaseT.



Construction

Conductor	bare copper wire Ø 0.56 mm (AWG 23)
Insulation	Foamskin Polyethylene, Ø 1.35 mm
Twisting	2 cores to the pair
Pair screen	High Performance STP: Al-laminated plastic foil, patented wrapping of two pairs each, drain wire AWG26 tinned
Sheath	FRNC, blue RAL 5012

Mechanical Properties

Bending radius	≥ 35 mm without load ≥ 70 mm with load
Temperature range, during operation	-20° up to +60°C
during installation	0° up to +50°C

Electrical Properties (at 20°C ± 5°C)

DC loop resistance	≤ 176 Ω /km
Resistance unbalance	≤ 2%
Insulation resistance (500 V)	≥ 2,000 MΩ *km
Capacitance at 800 Hz	nom. 43 nF/km
Capacitance unbalance (pair to ground)	≤ 1,500 pF/km
Characteristic impedance (1-100 MHz) (1-100 MHz)	(100 ± 15) Ω (100 ± 18) Ω
Nominal velocity of propagation	approx. 79%
Propagation delay	≤ 427 ns/100 m
Delay skew	≤ 12 ns/100 m
Test voltage (DC, 1 min) Core/Core and Core/Screen	 1,000 V
Transfer impedance	at 1 MHz ≤ 50 mΩ/m at 10 MHz ≤ 100 mΩ/m at 30 MHz ≤ 200 mΩ/m

Transmission characteristics acc. to Category 6/6a (at 20°C)

f (MHz)	Attenuation (dB/100 m)	NEXT (dB)	ACR (dB/100 m)	Return loss (dB)
1	1.8	100	98	–
4	3.4	100	97	27
10	5.4	100	95	30
16	6.8	100	93	30
20	7.7	100	92	30
31.2	9.6	100	90	30
62.5	13.7	100	86	30
100	17.4	100	83	30
125	19.5	95	75	26
155.5	21.9	94	72	26
175	23.3	93	70	25
200	25.0	92	67	25
250	28.1	90	62	24
300	30.9	89	58	24
400	38.3	87	48	23
450	44.8	85	40	22
500	44,8	85	40	22

Technical Data

Product code	Outer diameter mm	Fire load MJ/km	Fire load kWh/m	Weight kg/km	Copper content kg/km	Tensile force N
BC6/6a-4S-HF	6.5	501	0.139	44	24	100

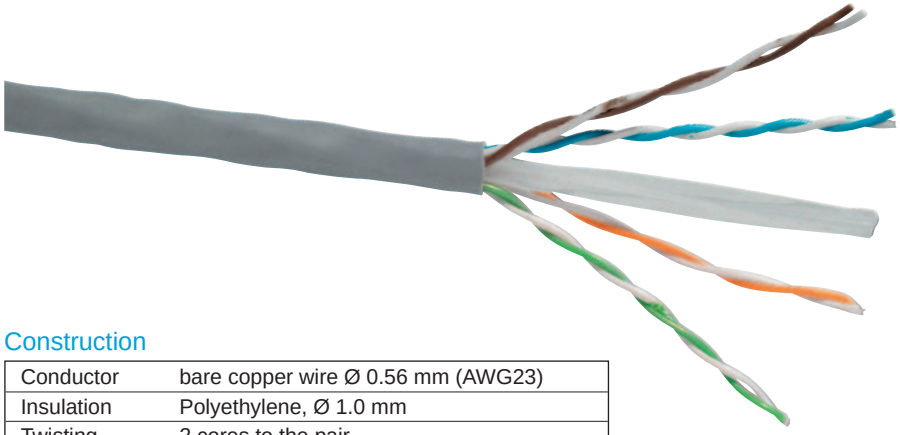
FTP Category 6/6a Installation Cable

PART NO.	DESCRIPTION
BC6/6a-4S-HF	Category 6/6a FTP Installation Cable, 500 m reels, LSOH

Cat 5e FTP cable available on request.
PVC cables available on request.

UTP Category 6 Installation Cable

Signamax Category 6 unshielded installation cable is designed to provide the highest level of transmission performance to meet the needs of today's most advanced voice and data networks. Category 6 cables support 10Base-T through 1000Base-T/TX protocols for data rates up to 1 Gb/s and exceed the requirements of TIA/EIA-568-B.2-1, ISO 11801:2002 and EN 50173-1 standards. The Signamax Category 6 cable conductor is AWG 23 bare copper wire with high density polyethylene insulation. The non-metallic cross separator inside the cable ensures the best crosstalk elimination between individual pairs.



Construction

Conductor	bare copper wire Ø 0.56 mm (AWG23)
Insulation	Polyethylene, Ø 1.0 mm
Twisting	2 cores to the pair
Sheath	non metallic cross separator (spline) PVC, grey RAL 7032

Mechanical Properties

Bending radius	≥ 20 mm without load ≥ 40 mm with load
Temperature range, during operation	-20° up to +60°C
during installation	0° up to +50°C

Electrical Properties (at 20°C ± 5°C)

DC loop resistance	≤ 176 Ω/km
Resistance unbalance	≤ 2%
Insulation resistance (500 V)	≥ 5,000 MΩ *km
Capacitance at 800 Hz	nom. 48 nF/km
Capacitance unbalance (pair to ground)	≤ 1,500 pF/km
Characteristic impedance (1-100 MHz)	(100 ± 15) Ω
Characteristic impedance (1-100 MHz) (1-100 MHz)	(100 ± 15) Ω (100 ± 22) Ω
Nominal velocity of propagation	approx. 67%
Propagation delay	≤ 535 ns/100 m
Delay skew	≤ 20 ns/100 m
Test voltage (DC, 1 min) Core/Core and Core/Screen	 1,000 V

Transmission characteristics acc. to Category 6 (at 20°C)

f	Attenuation		NEXT		ACR		Return loss
(MHz)	(dB/100 m)		(dB)		(dB/100 m)		(dB)
	max.	nom.	min.	nom.	min.	nom.	min.
1	2	2	74	90	71.8	88	23
4	3.8	3.8	65	89	61.2	85.2	23
10	6	6	59	89	53	82.8	23
16	7.6	7.6	56	86	48.4	78.1	23
20	8.5	8.5	55	84	46.5	75.8	23
31.2	10.7	10.7	52	81	41.3	70.7	23
62.5	15.5	15.1	47	77	31.5	61.8	23
100	19.9	19.1	44	74	24.1	54.7	23
125	22.5	21.3	43	72	20.5	51	21
155.5	25.4	23.8	42	71	16.6	47.1	21
175	27.1	25.3	41	70	13.9	44.9	21
200	29.2	27	40	69	10.8	42.3	21
250	33	32.6	38	68	5	35.2	19
300		35.7		67		30.9	
400		41.2		65		23.6	
450		42		64		22	

Technical Data

Product code	Outer diameter	Fire load		Weight	Copper content	Tensile force
	mm	MJ/km	kWh/m	kg/km	kg/km	N
BC6-4	6.2	329	0.091	40	18	80

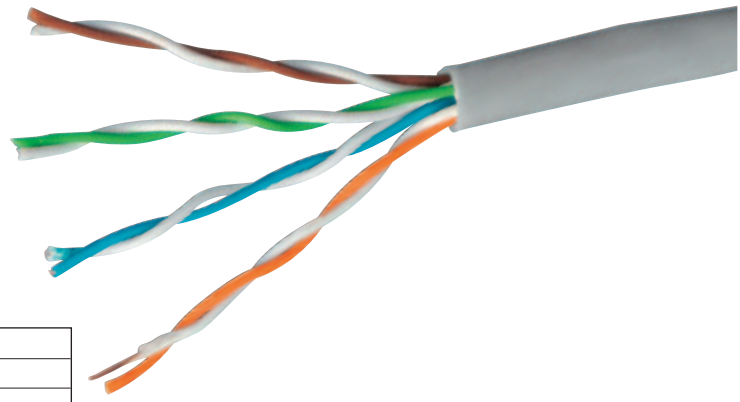
UTP Category 6 Installation Cable

PART NO.	DESCRIPTION
BC6-4	Category 6 UTP Installation Cable, 500 m reels, PVC

Halogen free cable available on request.

UTP Category 5e Installation Cable

The Category 5e unshielded installation cable is mostly used cable for data transmission where no electromagnetic disturbance is a problem. Supplied as part of complete Signamax Category 5e solution, the cable represents one of the key elements for safety and economical data transfer. Sophisticated cable design ensures very low electromagnetic emitency and low crosstalk. All parameters exceed requirements specified by TIA/EIA 568-B.2-1, ISO/IEC 11801:2002, and EN 50173-1 standards. The Signamax Category 5e cables are suitable for the high-speed 1000BaseT Ethernet protocol. Sheath material is supported by fire retardant PVC and halogen free compound.



Construction

Conductor	bare copper wire Ø 0.51 mm (AWG 24)
Insulation	Polyethylene, Ø 0.95 mm
Twisting	2 cores to the pair
Overall screen	Al-laminated plastic foil, Drain wire AWG26 tinned
Sheath	PVC alt. FRNC, grey RAL 7032

Mechanical Properties

Bending radius	≥ 20 mm without load ≥ 40 mm with load
Temperature range, during operation	-20° up to +60°C
during installation	0° up to +50°C

Electrical Properties (at 20°C ± 5°C)

DC loop resistance	≤ 192 Ω /km
Resistance unbalance	≤ 2%
Insulation resistance (500 V)	≥ 2,000 MΩ *km
Capacitance at 800 Hz	nom. 48 nF/km
Capacitance unbalance (pair to ground)	≤ 1,500 pF/km
Characteristic impedance (1-100 MHz)	(100 ± 15) Ω
Nominal velocity of propagation	approx. 67%
Propagation delay	≤ 535 ns/100 m
Delay skew	≤ 20 ns/100 m
Test voltage (DC, 1 min) Core/Core and Core/Screen	1,000 V

Transmission characteristics acc. to Category 5e (at 20°C)

f	Attenuation		NEXT		ACR		Return loss
(MHz)	(dB/100 m)		(dB)		(dB/100 m)		(dB)
	max.	nom.	min.	nom.	min.	nom.	min.
1	2	1.9	65	71	63.3	69.1	23
4	3.9	3.7	56	62	52.4	58.3	23
10	6.3	6.0	50	56	44.0	50.0	23
16	8.0	7.6	47	53	39.3	45.3	23
20	9.0	8.5	46	51	36.8	43.0	23
31.2	11.4	10.7	43	49	31.5	37.9	23
62.5	16.5	15.7	38	44	21.9	28.4	23
100	21.3	19.8	35	41	14.0	21.2	23
125		22.3		40		17.2	
155.5		24.2		38		13.9	
175		25.7		37		11.6	
200		27.5		36		9.0	
250		29.2		35		5.8	
300		32.0		34		1.8	

Technical Data

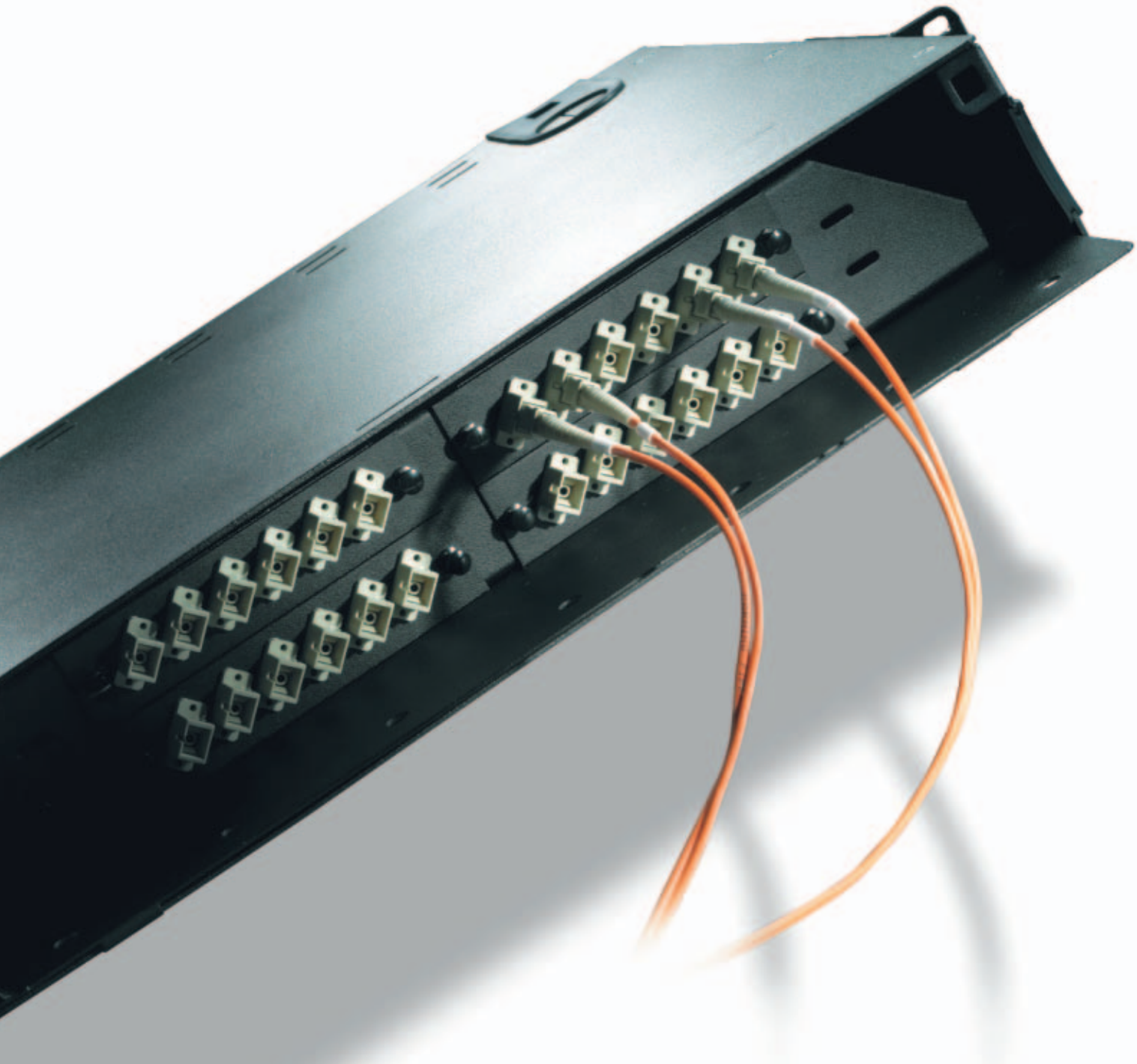
Product code	Outer diameter	Fire load		Weight	Copper content	Tensile force
	mm	MJ/km	kWh/m	kg/km	kg/km	N
BC5E-4	5.9	336	0.093	36	17.5	80

UTP Category 5e Installation Cable

PART NO.	DESCRIPTION
BC5E-4	Category 5e UTP Installation Cable, 305 m boxes, PVC

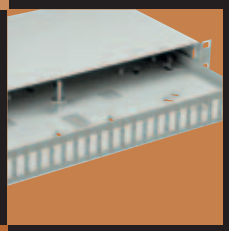
Halogen free cable available on request.

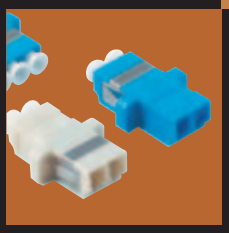
PREMISE CONNECTIVITY SYSTEMS



SIGNAMAX™
CONNECTIVITY SYSTEMS

Fiber Optic Systems

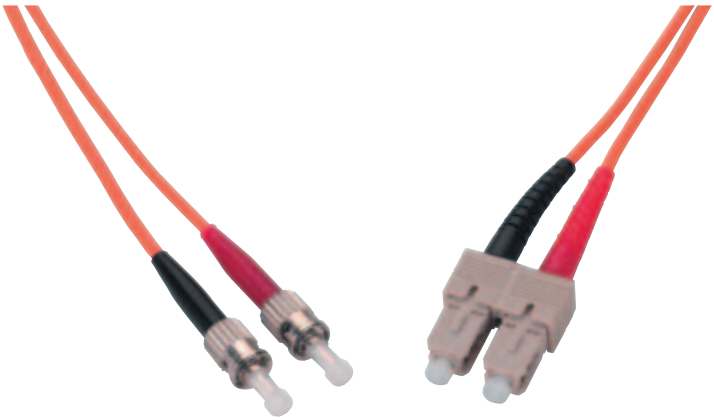




- Fiber Optic Patch Cords
- Fiber Optic Adapters
- Fiber Optic Patch Panels
- Wall Mount Fiber Optic Box

Fiber Optic Patch Cords

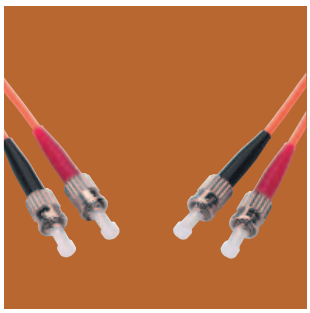
Fiber optic patch cords are suited for equipment jumper cable, cross connects, and work area connections. All patch cords are manufactured using OFNR riser grade cable and are 100% factory tested to ensure performance to TIA/EIA-568-B-2, ISO 11801:2002 and EN 50173-1 standards. ST/ST, SC/SC and hybrid ST/SC Patch Cords are available in both multimode (62.5/125 µm and 50/125 µm) and singlemode cable-types, in duplex and simplex versions.



ST Fiber Optic Patch Cords

PART NO.	DESCRIPTION
FC-2/2-LM	ST to ST Duplex Multimode Patch Cord, 62.5/125
FC50-2/2-LM	ST to ST Duplex Multimode Patch Cord, 50/125
FC9-2/2-LM	ST to ST Duplex Singlemode Patch Cord, 9/125

For length substitute L in P/N.
1=1 meter 2=2 meters 3=3 meters 5=5 meters
Other lengths and Simplex are available.

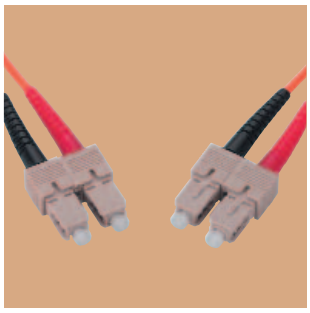


ST/ST Duplex

SC Fiber Optic Patch Cords

PART NO.	DESCRIPTION
FC-4/4-LM	SC to SC Duplex Multimode Patch Cord, 62.5/125
FC50-4/4-LM	SC to SC Duplex Multimode Patch Cord, 50/125
FC9-4/4-LM	SC to SC Duplex Singlemode Patch Cord, 9/125

For length substitute L in P/N.
1=1 meter 2=2 meters 3=3 meters 5=5 meters
Other lengths and Simplex are available.

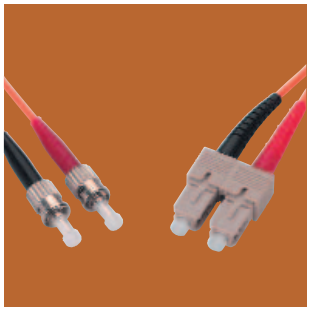


SC/SC Duplex

SC/ST Fiber Optic Patch Cords

PART NO.	DESCRIPTION
FC-4/2-LM	SC to ST Duplex Multimode Patch Cord, 62.5/125
FC50-4/2-LM	SC to ST Duplex Multimode Patch Cord, 50/125
FC9-4/2-LM	SC to ST Duplex Singlemode Patch Cord, 9/125

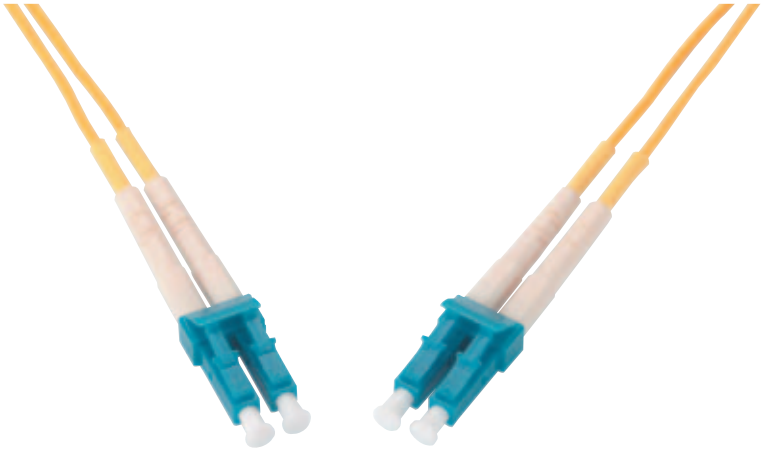
For length substitute L in P/N.
1=1 meter 2=2 meters 3=3 meters 5=5 meters
Other lengths and Simplex are available.
Other connectors on request.

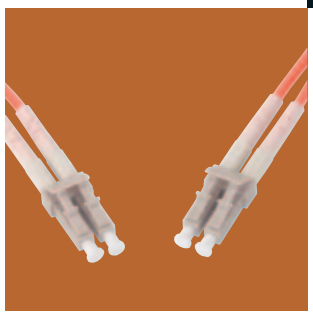


ST/SC Duplex

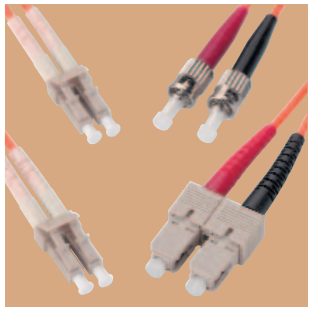
Fiber Optic Patch Cords

Signamax MTRJ and LC fiber optic patch cords suited for equipment jumper cable, cross connects, and work area connections. All patch cords are manufactured using OFNR riser grade cable and are 100% factory tested to ensure performance to TIA/EIA-568-B-3, ISO 11801:2002 and EN 50173-1 standards. MTRJ/MTRJ, LC/LC and hybrid MTRJ and LC to ST and SC multimode (62.5/125 µm and 50/125 µm) patch cords are available.

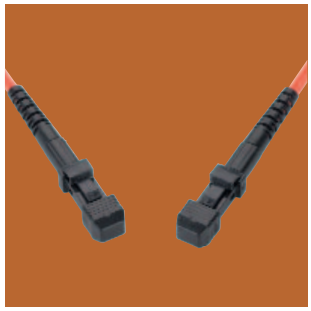




LC/LC Duplex

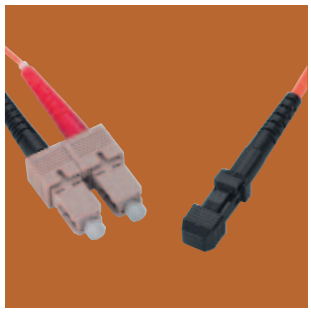


LC/ST (SC) Duplex



MTRJ Duplex

ST/MTRJ Duplex



SC/MTRJ Duplex

LC Fiber Optic Patch Cords

PART NO.	DESCRIPTION
FC-9/9-LM	LC to LC Duplex Multimode Patch Cord, 62.5/125
FC-9/2-LM	LC to ST Duplex Multimode Patch Cord, 62.5/125
FC-9/4-LM	LC to SC Duplex Multimode Patch Cord, 62.5/125
FC50-9/9-LM	LC to LC Duplex Multimode Patch Cord, 50/125
FC50-9/2-LM	LC to ST Duplex Multimode Patch Cord, 50/125
FC50-9/4-LM	LC to SC Duplex Multimode Patch Cord, 50/125

For length substitute L in P/N.
1=1 meter 2=2 meters 3=3 meters 5=5 meters
Other lengths are available.

MTRJ Fiber Optic Patch Cords

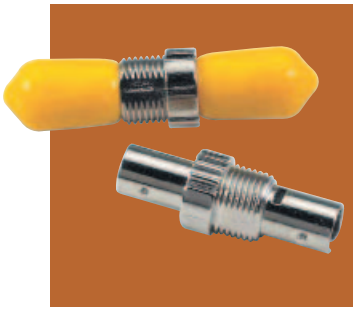
PART NO.	DESCRIPTION
FC-8/8-LM	MTRJ to MTRJ Duplex Multimode Patch Cord, 62.5/125
FC-8/2-LM	MTRJ to ST Duplex Multimode Patch Cord, 62.5/125
FC-8/4-LM	MTRJ to SC Duplex Multimode Patch Cord, 62.5/125
FC50-8/8-LM	MTRJ to MTRJ Duplex Multimode Patch Cord, 50/125
FC50-8/2-LM	MTRJ to ST Duplex Multimode Patch Cord, 50/125
FC50-8/4-LM	MTRJ to SC Duplex Multimode Patch Cord, 50/125

For length substitute L in P/N.
1=1 meter 2=2 meters 3=3 meters 5=5 meters
Other lengths are available.

Fiber Optic Adapters

SIGNAMAX Premise Connectivity System Fiber optic connectors are offered in wide range of types. All standard shapes are offered in both multimode and singlemode construction.

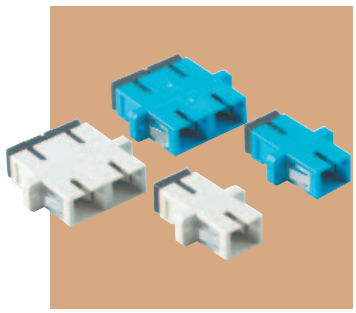
Signamax offers a wide variety of fiber optic adapters including ST, SC, LC and MTRJ. Our ST and SC adapters are available with a phosphor bronze sleeve for universal applications (MM/SM). All SC, LC and MTRJ adapters are provided with retaining clips for easy, snap-in mounting.


FA-ST

ST Fiber Connectors and Adapters

PART NO.	DESCRIPTION
FC-ST-MM	ST MM Connector, Zirconia sleeve, crimping, 3.0 mm
FC-ST-SM	ST SM Connector, Zirconia sleeve, crimping, 3.0 mm
FA-ST02	ST MM/SM Adapter w/Phosphor Bronze Sleeve

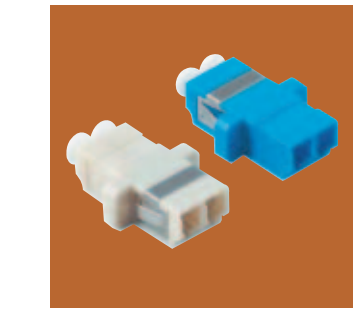
Singlemode Adapter available on request.


FA-SC

SC Fiber Connectors and Adapters

PART NO.	DESCRIPTION
FC-SC-MM	SC MM Connector, Phosphor bronze sleeve, crimping, 3.0 mm, Simplex
FC-SC-SM	SC SM Connector, Zirconia sleeve, crimping, 3.0 mm, Simplex
FA-SCD02-B	SC Duplex MM Adapter, Phosphor Bronze Sleeve, Beige
FA-SCD03-BU	SC Duplex SM Adapter, Zirconia Ceramic Sleeve, Blue

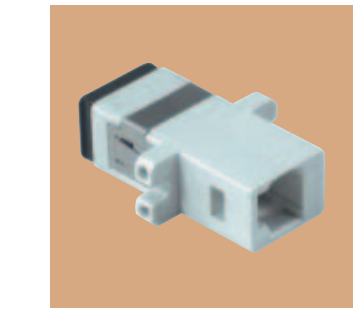
SM and Simplex Adapters available on request.


FA-LC

LC Fiber Connectors and Adapters

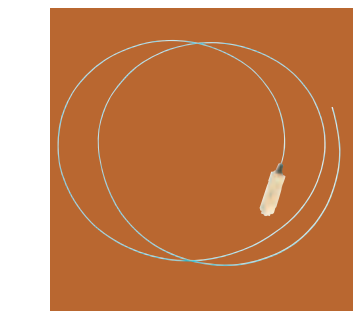
PART NO.	DESCRIPTION
FC-LC-MM	LC MM Connector, Phosphor bronze sleeve, crimping, 3.0 mm, Simplex
FC-LC-SM	LC MM Connector, Zirconia sleeve, crimping, 3,0mm, Simplex
FA-LCD02-B	LC Duplex MM Adapter w/Phosphor Bronze Sleeve
FA-LCD03-B	LC Duplex SM Adapter, Zirconia Sleeve

SM available on request.


FA-MTRJ

MTRJ Fiber Connectors and Adapters

PART NO.	DESCRIPTION
FC-MTM-MM	MTRJ MM Connector, Phosphor bronze sleeve, crimping, 3.0 mm, Male
FC-MTF-MM	MTRJ MM Connector, Phosphor bronze sleeve, crimping, 3.0 mm, Female
FC-MTM-SM	MTRJ MM Connector, Zirconia sleeve, crimping, 3.0 mm, Male
FC-MTF-SM	MTRJ MM Connector, Zirconia sleeve, crimping, 3.0 mm, Female
FA-MTRJ-B	MTRJ MM/SM Adapter


Pigtail SC

Fiber Optic Pigtails

PART NO.	DESCRIPTION
FC50-PI-ST-2m	Pigtail 2m ST 50/125 µm
FC50-PI-SC-2m	Pigtail 2m SC 50/125 µm
FC50-PI-LC-2m	Pigtail 2m LC 50/125 µm
FC-PI-ST-2m	Pigtail 2m ST 62.5/125 µm
FC-PI-SC-2m	Pigtail 2m SC 62.5/125 µm
FC-PI-LC-2m	Pigtail 2m LC 62.5/125 µm

Other lenghts and accessories (splice tray, fusion protector) available on request.

Fiber Optic Patch Panels

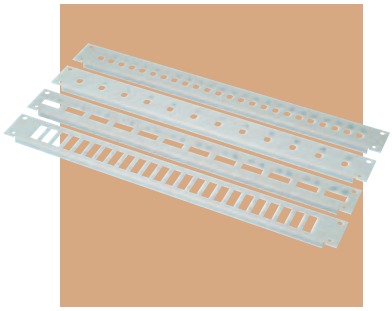
Signamax 19" Rack mountable fiber optic patch panel is designed for direct fiber optic cables termination. Standard size is 1U. The patch panel is modular and contains two parts—body and faceplate for several adapter types and count. Panel has fully metal massive construction for usage in critical environments and can be easily pulled out with no need to be dismantled from the rack. Rear section accommodates cable entry and cable holder that protects cables against damage.

FP-1U

Fiber Optic Patch Panels

PART NO.	DESCRIPTION
FP-1U	Fiber optic patch panel without face plate 1U
FP-12ST-1U	1U face plate for fiber optic patch panel for 12 ST adapters
FP-16ST-1U	1U face plate for fiber optic patch panel for 16 ST adapters
FP-24ST-1U	1U face plate for fiber optic patch panel for 24 ST adapters
FP-12SCD-1U	1U face plate for fiber optic patch panel for 12 duplex SC adapters
FP-16SCD-1U	1U face plate for fiber optic patch panel for 16 duplex SC adapters
FP-24SCD-1U	1U face plate for fiber optic patch panel for 24 duplex SC adapters
BPE-SC-3-01	Blank plate SC duplex

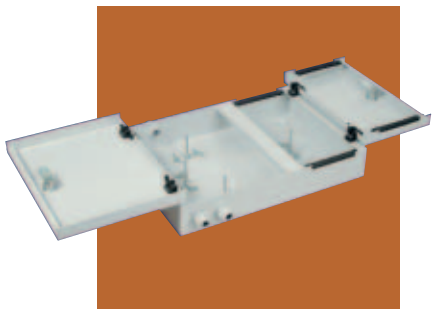
Colour grey RAL 7035



Face plates

Wall Mount Fiber Optic Box

Signamax Wall Mount Fiber Optic Box is used for the direct termination of fibers. The rear section accommodates cable entry and protects against taking out the cables. Box includes two separate sections for fusion splice trays and for routing optical patch cords to the equipment. Box is fitted with two locks with different keys. The Signamax four-rack space fiber optic enclosure contains all of the features of the two-rack space model, but with additional capacity to manage fiber counts up to 144. Cable entry/exit feature utilizes a flexible grommet seal, which is cut at time of installation to accommodate the desired cable diameters for entry and exit points. These grommets provide a dust & debris barrier during and after installation.

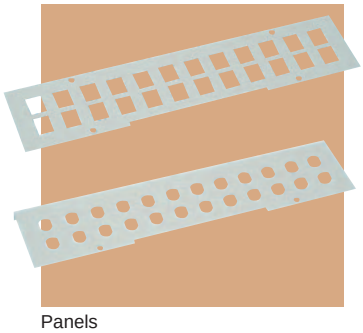


RA2-FO-A05

Wall Mount Fiber Optic Box

PART NO.	DESCRIPTION
RA2-FO-A05	Wall mounted fiber optic box without accessories
RA-FO-24ST	Panel for RA2-FO-A05 and for 24 ST adapters
RA-FO-24SC	Panel for RA2-FO-A05 and for 24 SC adapters
RA-FO-12ST	Panel for RA2-FO-A05 and for 12 ST adapters
RA-FO-12SC	Panel for RA2-FO-A05 and for 12 SC adapters

Colour grey RAL 7035



Panels

PREMISE CONNECTIVITY SYSTEMS

SIGNAMAX
CONNECTIVITY SYSTEMS

Data Racks

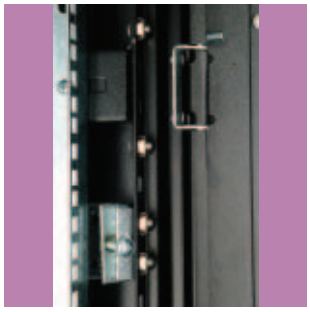
M

- 19" Data Racks
- 19" Server Racks
- 19" Wall Mounted Racks
- 19" Mounted Rack Signamax
- 19" Profile Frames
- 19" Fan Units
- 19" Shelves
- Diode Lighting Unit
- Accessories

19" Data Racks

Attractive design and high quality are hallmarks of these data racks. Their basic framework is welded metal plate, multiple-bent for the strength and rigidity necessary for heavier equipment. All profile moldings are flexible and adjustable. Vent slots in the upper or lower cabinetry allow airflow for efficient cooling. The door is made of safety glass, and can be mounted for either left or right-hand opening on either the front or rear of the data rack. The side-walls and door are assembled and provided with ground straps. These data racks can also be interconnected into sets, for larger switch or server rooms.

Metal handle



Door hold

Fan units
Can be mounted in the lower and/or the upper part of the enclosure without effecting available rack space. Dust filter included.

Wheels
Four wheels, two of which are adjustable. (available on request)

Supply includes
4 adjustable feet, Brush insert (foam insert), Door lock including set of 2 keys.

Colour and material
1.4 mm sheet steel, shaded 4 mm safety glass. Grey colour (RAL 7035), black colour (RAL 9005).

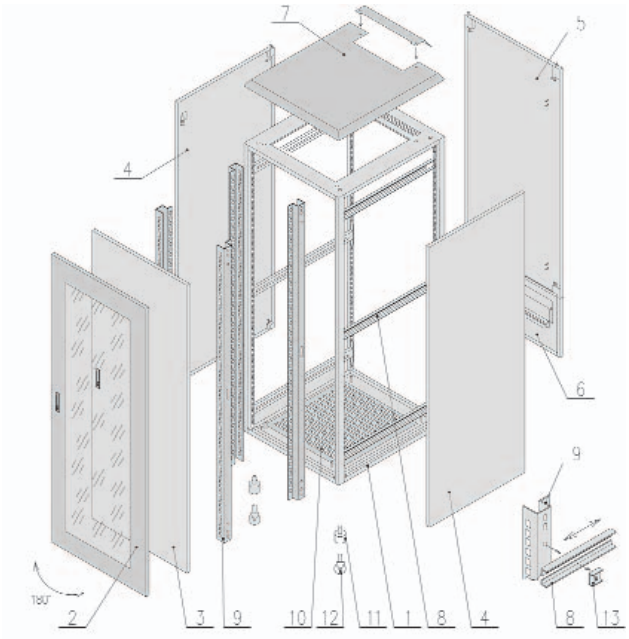
Adjustable feet
All feet can be adjusted up to 20 mm to compensate for uneven floors and assure high stability.

Door lock
Adjustable 3-point lock on the front door.

Front and side access
The door and sidewalls can be easily removed.

Cable entry
Via the slot in the lower back side and through the top of the rack, either through brushes or gasket foam. Entry from the top of the rack is available on special request.

Profile moldings
Four profile moldings are easily adjustable.



1. Skeleton
2. Glass door (right-or left-hand) (three-point bar locking)
3. Flush door (upon request only) (right-or left-hand) (three-point bar locking)
4. Side cover
5. Rear cover (right-or left-hand) (three-point bar locking)
6. Cable opening
7. Ceiling cover
8. Cross bar
9. 19" Frame
10. Filter (both in the bottom and the ceiling)
11. Adjustable feet
12. Travel wheels (upon request only)
13. Roof cover

19" Data Racks

PART NO.	DESCRIPTION
REC-6156B	19" Rack Signamax, height 15U, width and depth 600 mm
REC-6186B	19" Rack Signamax, height 18U, width and depth 600 mm
REC-6246B	19" Rack Signamax, height 24U, width and depth 600 mm
REC-6286B	19" Rack Signamax, height 28U, width and depth 600 mm
REC-6326B	19" Rack Signamax, height 32U, width and depth 600 mm
REC-6386B	19" Rack Signamax, height 38U, width and depth 600 mm
REC-6426B	19" Rack Signamax, height 42U, width and depth 600 mm
REC-6456B	19" Rack Signamax, height 45U, width and depth 600 mm

Side wall hinge

PART NO.	DESCRIPTION
REC-6288B	19" Rack Signamax, height 28U, width 600 mm, depth 800 mm
REC-6328B	19" Rack Signamax, height 32U, width 600 mm, depth 800 mm
REC-6388B	19" Rack Signamax, height 38U, width 600 mm, depth 800 mm
REC-6428B	19" Rack Signamax, height 42U, width 600 mm, depth 800 mm
REC-6458B	19" Rack Signamax, height 45U, width 600 mm, depth 800 mm

Bottom part with ground straps

PART NO.	DESCRIPTION
REC-8288B	19" Rack Signamax, height 28U, width and depth 800 mm
REC-8328B	19" Rack Signamax, height 32U, width and depth 800 mm
REC-8388B	19" Rack Signamax, height 38U, width and depth 800 mm
REC-8428B	19" Rack Signamax, height 42U, width and depth 800 mm
REC-8458B	19" Rack Signamax, height 45U, width and depth 800 mm

PART NO.	DESCRIPTION
REC-6421B	19" Rack Signamax, height 42U, width 600 mm and depth 1,000
REC-8421B	19" Rack Signamax, height 42U, width 800 mm and depth 1,000

PART NO.	DESCRIPTION
REC-8286B	19" Rack Signamax, height 28U, width 800 mm, depth 600 mm
REC-8326B	19" Rack Signamax, height 32U, width 800 mm, depth 600 mm
REC-8386B	19" Rack Signamax, height 38U, width 800 mm, depth 600 mm
REC-8426B	19" Rack Signamax, height 42U, width 800 mm, depth 600 mm
REC-8456B	19" Rack Signamax, height 45U, width 800 mm, depth 600 mm

19" Server Racks

Signamax 19" Server Racks are especially suitable for server instalation, but all other 19" components and accessories can be installed as well. Back of the rack is perforated and allows higer air flow. All other attributes are identical with regular Signamax 19" Data Racks (see page M1).

19" Server Racks

PART NO.	DESCRIPTION
RECS-6421B	19" Server Rack Signamax, height 42U, width 600 mm, depth 1000 mm, bottom end top cable entry
RECS-8421B	19" Server Rack Signamax, height 42U, width 800 mm, depth 1000 mm, bottom end top cable entry

19" Wall Mounted Racks

Vent slots in the upper and lower part of the Signamax Wall Mounted Data Rack allow sufficient airflow inside. Can be mounted upside-down, enabling the door to be opened from the left or right. Wall section can be directly hinged on the wall or by means of a fixed frame. Front door is made of safety glass. The rack is lockable. Center section lock system can be unlocked separately.

19" Wall Mounted Racks – not divided

PART NO.	DESCRIPTION
RECW-044B	Signamax 19" Wall Mounted Rack, height 4U, depth 400 mm
RECW-064B	Signamax 19" Wall Mounted Rack, height 6U, depth 400 mm
RECW-094B	Signamax 19" Wall Mounted Rack, height 9U, depth 400 mm
RECW-124B	Signamax 19" Wall Mounted Rack, height 12U, depth 400 mm
RECW-154B	Signamax 19" Wall Mounted Rack, height 15U, depth 400 mm
RECW-184B	Signamax 19" Wall Mounted Rack, height 18U, depth 400 mm
RECW-214B	Signamax 19" Wall Mounted Rack, height 21U, depth 400 mm

19" Wall mounted racks – divided

PART NO.	DESCRIPTION
RECW-065B	Signamax 19" Wall Mounted Rack, height 6U, depth 500 mm
RECW-095B	Signamax 19" Wall Mounted Rack, height 9U, depth 500 mm
RECW-125B	Signamax 19" Wall Mounted Rack, height 12U, depth 500 mm
RECW-155B	Signamax 19" Wall Mounted Rack, height 15U, depth 500 mm
RECW-185B	Signamax 19" Wall Mounted Rack, height 18U, depth 500 mm
RECW-215B	Signamax 19" Wall Mounted Rack, height 21U, depth 500 mm

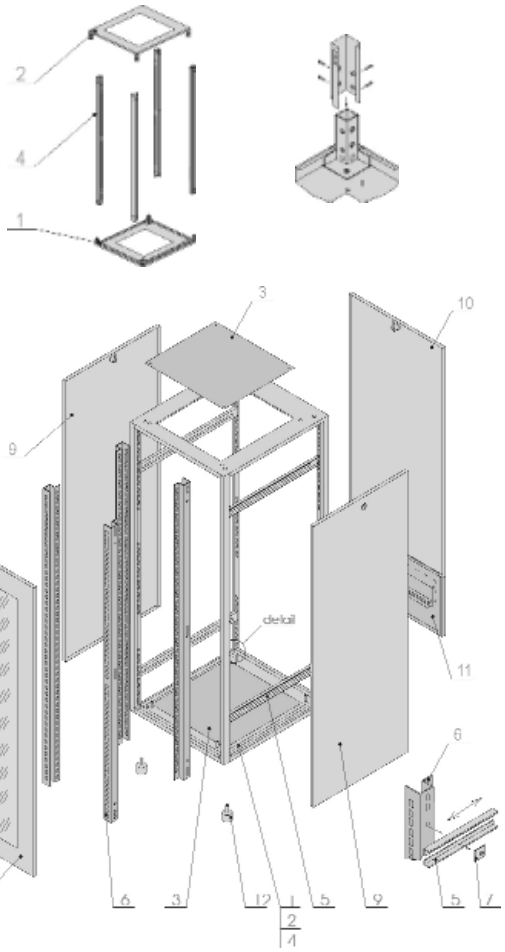
Cable entry: From the top, bottom or the back of the data rack.
Ground strap: Four ground straps are mounted.
Colour and Material:
RAL 7035,1.4 mm sheet steel, shaded 4 mm safety glass. Black colour (RAL 9005) available on request.

19" Assembled Data Rack

The Signamax Assembled Rack is suitable for installation of structured cabling components—e.g. patch panels, active equipment and telecommunication cabling components. The design of the rack is accommodated to fit most computing and data centers.

Rack Description

This 19" Assembled Data Rack consists of assembled skeleton. The front side door is mounted using three hinges and secured by 1-point lock. The safety glass used in the door assembly provides high safety. The removable back and side covers are locked and can be opened with a key that is provided with the rack. The cable entry is located under the back cover. The side and back covers are swappable. In the bottom and ceiling, slots for optional fan installation are provided. These racks can be attached together to form groups. The surface is treated with pulverized color for internal environment (for external environment on request only) according to RAL color scale. Standard color is grey (RAL 7035) and black (RAL 9005).



Standard package contains:

1. Bottom
2. Ceiling
3. Ceiling and Bottom Cover
4. Bars
5. Cross Bar
6. 19" Frame
7. Guide
8. Glass Door (right- or left-hand)
9. Side Cover
10. Rear Cover
11. Cable Entry
12. Adjustable Feet

Non-standard components (on request only)

Full Door
Perforated Door
Perforated Side Cover
Perforated Back Cover
Travel Wheels

Table of standard Rack dimensions

PART NO.	DESCRIPTION
RECA-6156B	19" Assembled Signamax Rack, height 15U, depth and width 600 mm
RECA-6186B	19" Assembled Signamax Rack, height 18U, depth and width 600 mm
RECA-6246B	19" Assembled Signamax Rack, height 24U, depth and width 600 mm
RECA-6286B	19" Assembled Signamax Rack, height 28U, depth and width 600 mm
RECA-6326B	19" Assembled Signamax Rack, height 32U, depth and width 600 mm
RECA-6386B	19" Assembled Signamax Rack, height 38U, depth and width 600 mm
RECA-6426B	19" Assembled Signamax Rack, height 42U, depth and width 600 mm
RECA-6456B	19" Assembled Signamax Rack, height 45U, depth and width 600 mm
RECA-6288B	19" Assembled Signamax Rack, height 28U, depth 800 mm, width 600 mm
RECA-6328B	19" Assembled Signamax Rack, height 32U, depth 800 mm, width 600 mm
RECA-6388B	19" Assembled Signamax Rack, height 38U, depth 800 mm, width 600 mm
RECA-6428B	19" Assembled Signamax Rack, height 42U, depth 800 mm, width 600 mm
RECA-6458B	19" Assembled Signamax Rack, height 45U, depth 800 mm, width 600 mm
RECA-8288B	19" Assembled Signamax Rack, height 28U, depth and width 800 mm
RECA-8328B	19" Assembled Signamax Rack, height 32U, depth and width 800 mm
RECA-8388B	19" Assembled Signamax Rack, height 38U, depth and width 800 mm
RECA-8428B	19" Assembled Signamax Rack, height 42U, depth and width 800 mm
RECA-8458B	19" Assembled Signamax Rack, height 45U, depth and width 800 mm
RECA-8286B	19" Assembled Signamax Rack, height 28U, depth 600 mm, width 800 mm
RECA-8326B	19" Assembled Signamax Rack, height 32U, depth 600 mm, width 800 mm
RECA-8386B	19" Assembled Signamax Rack, height 38U, depth 600 mm, width 800 mm
RECA-8426B	19" Assembled Signamax Rack, height 42U, depth 600 mm, width 800 mm
RECA-8456B	19" Assembled Signamax Rack, height 45U, depth 600 mm, width 800 mm
RECA-6421B	19" Assembled Signamax Rack, height 42U, depth 1,000, width 600 mm
RECA-8421B	19" Assembled Signamax Rack, height 42U, depth 1,000, width 800 mm

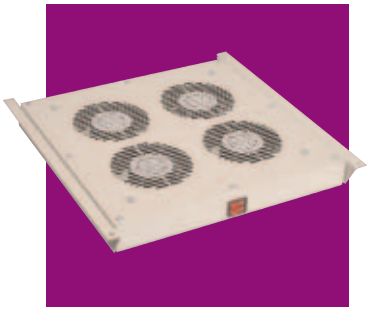
Skeleton detail – inside assembly

1-point door lock

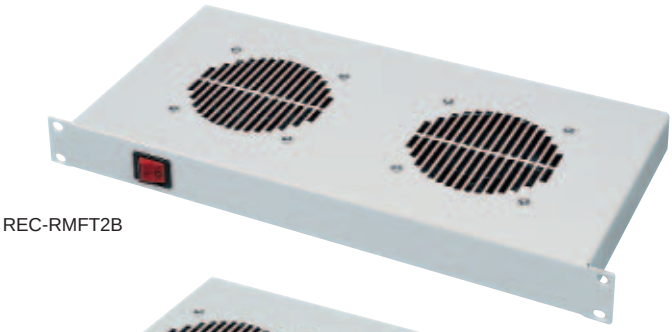
Skeleton detail – outside assembly

19" Fan Units

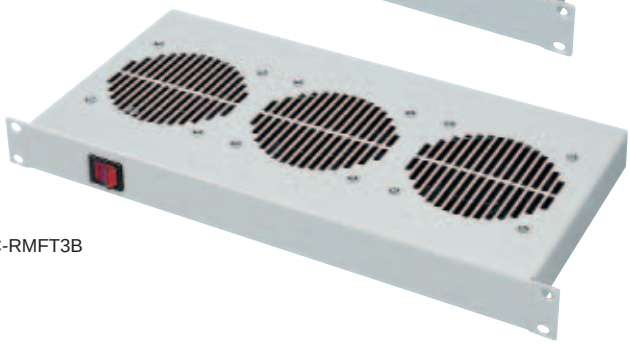
Signamax 19" Fan Units are constructed to fit into all Signamax 19" Data Racks, to provide forced airflow inside. Fits in lower as well as in the upper part of the rack. Standard and recommended installation is in the lower part of the rack to ensure a proper "chimney-effect", which supplies the rack with fresh air. Fan units allow airflow of up to 160 m³/hour. All fan units are equipped with a thermostat to regulate the airflow for temperatures in the range of 0° to 60°C. Fan units can be deactivated by using the main switch.



REC-RMFT150B



REC-RMFT2B



REC-RMFT3B

REC-RMFT3B-IN

REC-RMFT30B

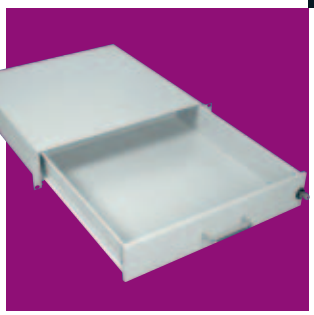
19" Fan Units with Thermostat

PART NO.	DESCRIPTION
REC-RMFT2B-IN	19" Fan unit 2x fan with inbuild thermostat
REC-RMFT3B-IN	19" Fan unit 3x fan with inbuild thermostat
REC-RMFT30B	Side wall Fan unit 3x fan
REC-RMFT70B	Lower/Upper Fan unit 2x fan
REC-RMFT150B	Lower/Upper Fan unit 4x fan

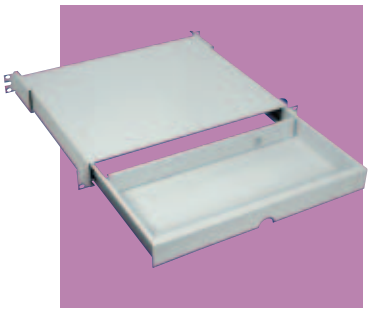
Colour grey (RAL 7035). Black (RAL 9005) available on request.

19" Shelves

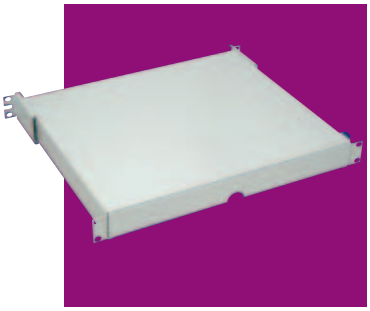
Signamax shelves for keyboard, documentation and LCD monitor are designed for the installation into the 19" data rack profiles. Shelves with lockable drawers for safe stowage of service documentation and shelves with an integrated computer keyboard and monitor occupy the space of 1U. This gives you more room in the data rack.



Documentation shelf opened



Keyboard shelf opened



Keyboard shelf closed

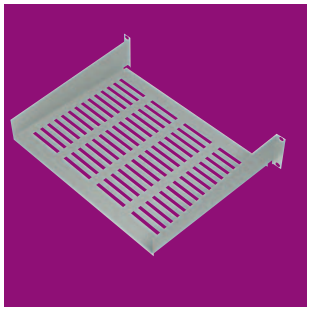
Keyboard and documentation shelves

PART NO.	DESCRIPTION
REC-SV-DOC	1U documentation shelf with lock
REC-SV-KB	Keyboard shelf 1U
REC-SV-KBM	Shelf for keyboard and LCD monitor, 1U

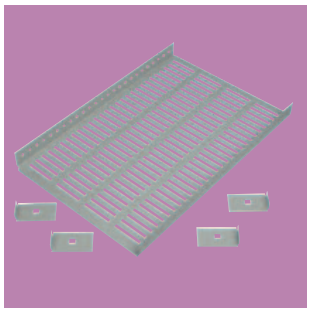
Colour grey (RAL 7035). Black (RAL 9005) available on request.

19" Shelves

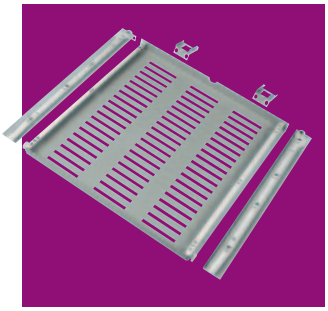
Signamax 19" shelves are convenient for equipment not designed for 19" installations. Our product range includes shelves for fixed and drawer-style installations. Drawer-style system enables easier access to the equipment being used. Ventilated bottom assures cooling airflow to the equipment. Shelf supports and mounting brackets are included. Fixed shelves are available in depths from 150 mm to 550 mm. Sliding shelves are available in depths from 250 mm to 450 mm.



REC-SV15B



REC-SV35B



REC-TSV45B

19" Shelves

PART NO.	DESCRIPTION
REC-SV15B	Shelf, 150 mm depth, 1U
REC-SV25B	Shelf, 250 mm depth, 1U
REC-SV35B	Shelf, 350 mm depth, 1U
REC-SV45B	Shelf, 450 mm depth, 1U
REC-SV55B	Shelf, 550 mm depth, 1U
REC-SV65B	Shelf, 650 mm depth, 1U
REC-TSV25B	Drawer-style Shelf, 250 mm depth, 1U
REC-TSV35B	Drawer-style Shelf, 350 mm depth, 1U
REC-TSV45B	Drawer-style Shelf, 450 mm depth, 1U

Colour grey (RAL 7035). Black (RAL 9005) available on request.

19" Diode Lighting Unit

The 19" diode lighting unit is constructed as a compact fixture designed for installation into 19" distribution board frames for illumination of equipment installed within distribution board. The ON/OFF pushbutton and the LED-signaling that indicates On/Off state are located on the face of the unit. The rear side is equipped with a socket for power feed. The underside of the unit is fitted with the line of LED—i.e. the light is directed downwards. The unit is movable in its holders forward or backward in order to set the optimal illumination direction.

Diode Lighting Unit

PART NO.	DESCRIPTION
REC-LU-LED-BK	Diode Lighting Unit 1U black, RAL 9005
REC-LU-LED	Diode Lighting Unit 1U grey, RAL 7035

MAIN CHARACTERISTICS

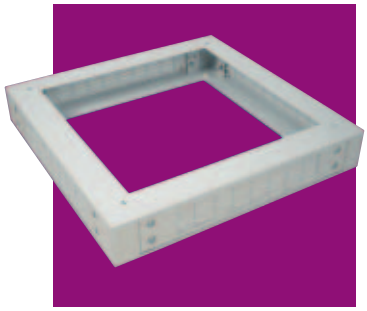
- **High illuminating power**
- **Low electric power consumption**
- **Long lifespan**
- **Very low heat radiation**

TECHNICAL DATA

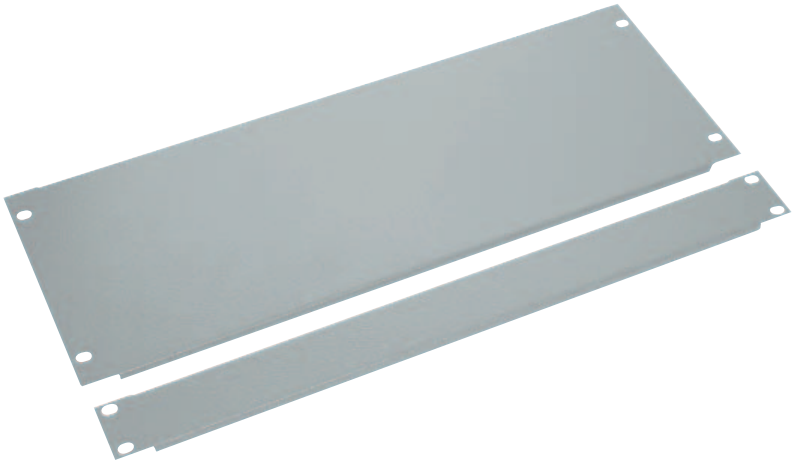
Dimensions (W x H x D): 483 x 44 x 125 mm
Mass: 3 kg without connecting cable
Voltage system: 1NPE, 230 V, 50/60 Hz, TN-S
Current: 0.06 A maximum
Power supply: 15 W maximum

Accessories

These base frames are suitable for all Signamax data racks and are used for fixing the rack to the floor to assure stability. Cable inlets placed on each side of the base are covered by a filter grid. Filter grid can be removed to insert cables inside. Adjustable feet for 19" Data racks are to compensate for uneven floors and to assure high stability.

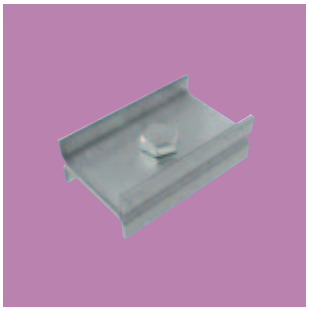


REC-RB-66BF



REC-CB

REC-LU



REC-CCK

Blanking panels

PART NO.	DESCRIPTION
EPP-BL1	Blank panel 1U, RAL 7035
EPP-BL2	Blank panel 2U, RAL 7035
EPP-BL3	Blank panel 3U, RAL 7035
EPP-BL4	Blank panel 4U, RAL 7035
EPP-BL6	Blank panel 6U, RAL 7035

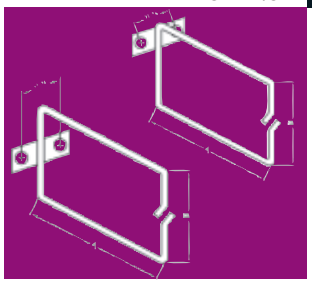
Base frames

PART NO.	DESCRIPTION
REC-RB-66BF	Signamax Rack Base Frame, 600 x 600 x 100 mm, 4 filters, RAL 7035
REC-RB-68BF	Signamax Rack Base Frame, 600 x 800 x 100 mm, 4 filters, RAL 7035
REC-RB-88BF	Signamax Rack Base Frame, 800 x 800 x 100 mm, 4 filters, RAL 7035
REC-RB-66-20	Signamax Rack Base Frame, 600 x 600 x 200 mm, 4 filters, RAL 7035
REC-RB-88-20	Signamax Rack Base Frame, 800 x 800 x 200 mm, 4 filters, RAL 7035
REC-FPFP-4	Mounting Kit M5 4pcs set
REC-FPFP-20	Mounting Kit M5 20pcs set
REC-FPFP-50	Mounting Kit M5 50pcs set
REC-LU	19" Light unit, 1U, 3 halogen lights, black colour
REC-MLU	Lighting unit, fluorescent, mounting by magnet, grey RAL 7035
REC-CB	Signamax Racks Wheels, set of 4 pieces
REC-CCK	Racks connecting kit (incl. screws and nuts)
REC-LOCK	Half cylinder for the plastic lock

Accessories

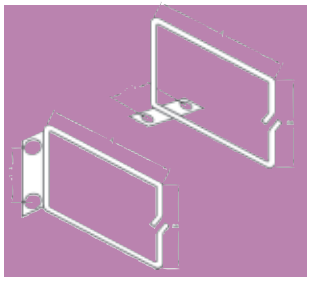
Ring brackets are used for organizing cables inside of the enclosure. Cables are organized by vertical or horizontal organizer brackets. Two mounting sets allow multiple placement possibilities within the data rack. Metal brackets have a polished surface texture. 19" cable organizer with 5 plastic rings and side protection is designed for easy and fast management of patch cords and other cables.

EPCM1-4/8



EPCM2-4/8

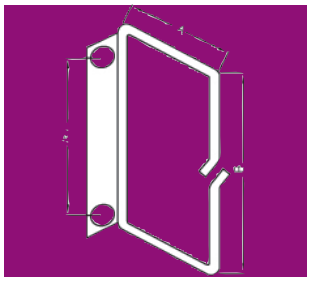
EPCM3-4/8



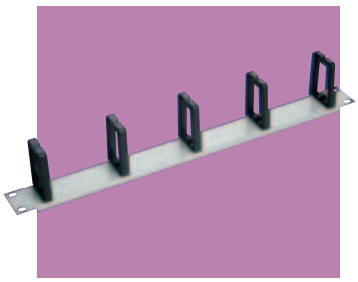
EPCM4-4/8

Cable Management Ring Brackets

PART NO.	DESCRIPTION	A	B
EPCM1-4/4	Cable management bracket 40 x 40 mm	40	40
EPCM1-4/8	Cable management bracket 40 x 80 mm	80	40
EPCM1-8/8	Cable management bracket 80 x 80 mm	80	80
EPCM2-4/4	Cable management bracket 40 x 40 mm	40	40
EPCM2-4/8	Cable management bracket 40 x 80 mm	80	40
EPCM2-8/8	Cable management bracket 80 x 80 mm	80	80
EPCM3-4/4	Cable management bracket 40 x 40 mm	40	40
EPCM3-4/8	Cable management bracket 40 x 80 mm	80	40
EPCM3-8/8	Cable management bracket 80 x 80 mm	80	80
EPCM4-4/4	Cable management bracket 40 x 40 mm	40	40
EPCM4-4/8	Cable management bracket 40 x 80 mm	80	40
EPCM5-8/4	Cable management bracket 80 x 40 mm	40	80
EPCM5-8/8	Cable management bracket 80 x 80 mm	80	80



EPCM5-4/8

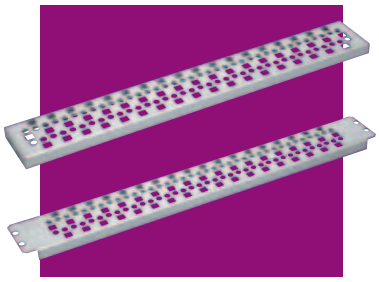


REC-VP1

Cable Organizer

PART NO.	DESCRIPTION
EC-VP1	Cable oranizer 1U, with plastic rings, grey
REC-MCO-S60	Multi cable organizer, side mounting, 600 mm, RAL 7035
REC-MCO-S80	Multi cable organizer, side mounting, 800 mm, RAL 7035
REC-MCO-S100	Multi cable organizer, side mounting, 1000 mm, RAL 7035
REC-MCO-F60	Multi cable organizer, front mounting, 600 mm, RAL 7035
REC-MCO-F80	Multi cable organizer, front mounting, 800 mm, RAL 7035
REC-MCO-F100	Multi cable organizer, front mounting, 1000 mm, RAL 7035

REC-MCO-F60

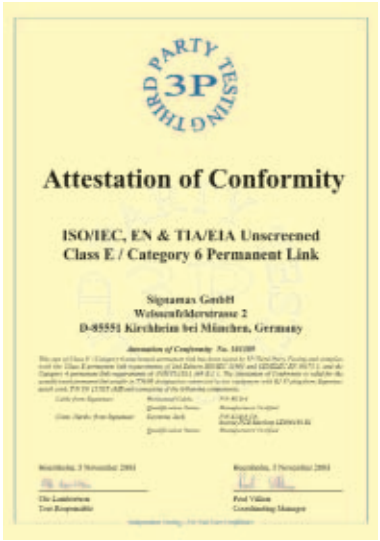


REC-MCO-S60

Certificates

Signamax Connectivity Systems are certified by independent testing laboratories. Bellow you can find the certificates that Signamax obtained from Third Party Testing laboratory (also known as 3P) for Category 5e Unscreened, Category 5e Screened, Category 6 Unscreened, and Category 6 Screened products. All certificates can also be downloaded at our Signamax web page www.signamax.cz.

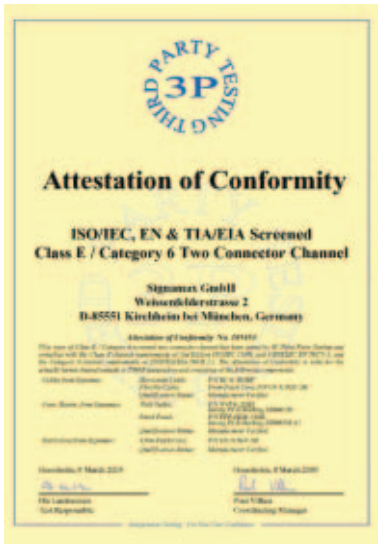
Category 6


THIRD PARTY TESTING 3P

Attestation of Conformity

ISO/IEC, EN & TIA/EIA Unscreened
Class E / Category 6 Permanent Link

Signamax GmbH
Weissenfelderstrasse 2
D-85551 Kirchheim bei München, Germany

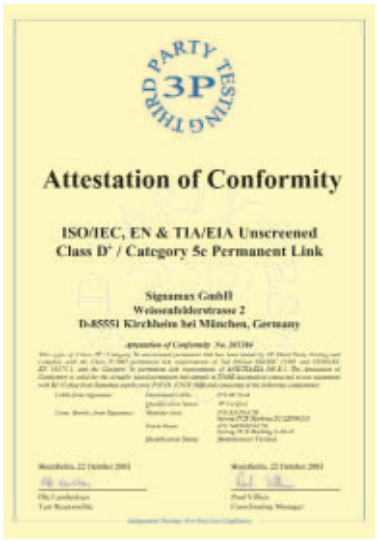

THIRD PARTY TESTING 3P

Attestation of Conformity

ISO/IEC, EN & TIA/EIA Screened
Class E / Category 6 Two Connector Channel

Signamax GmbH
Weissenfelderstrasse 2
D-85551 Kirchheim bei München, Germany

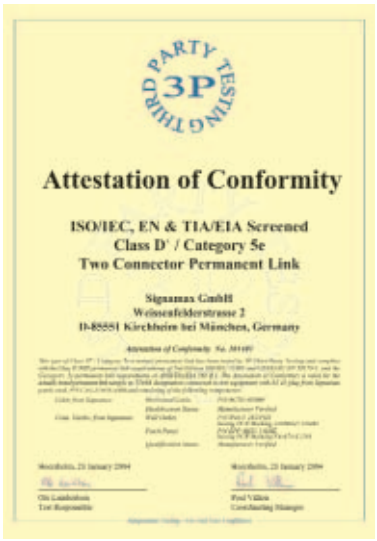
Category 5e


THIRD PARTY TESTING 3P

Attestation of Conformity

ISO/IEC, EN & TIA/EIA Unscreened
Class D* / Category 5e Permanent Link

Signamax GmbH
Weissenfelderstrasse 2
D-85551 Kirchheim bei München, Germany


THIRD PARTY TESTING 3P

Attestation of Conformity

ISO/IEC, EN & TIA/EIA Screened
Class D* / Category 5e
Two Connector Permanent Link

Signamax GmbH
Weissenfelderstrasse 2
D-85551 Kirchheim bei München, Germany

YOUR DISTRIBUTOR

SIGNAMAX™
CONNECTIVITY SYSTEMS

© Copyright by ASPRA, a.s. and Pavlina Kralova. Any copying of this document without the author's consent is not allowed.

Compressed release